



Proceedings

Proceedings of Full Papers Only

Final Program

10th Annual International Conference on Industrial Engineering and Operations Management

Dubai, United Arab Emirates (UAE)

March 10–12, 2020

Venue: Hyatt Regency Dubai

[Virtual Event Details - CLICK HERE](#)

[Faculty Jobs
Announcement](#)

[Flyer - Supply Chain
and Logistics
Competition](#)

[Scopus Indexing of
IEOM Papers](#)

[IEOM Society
International is a
501\(c\)\(3\) nonprofit
organization
approved by IRS
\(USA\).](#)

[IEOM Society
International Site](#)

[Global Council](#)

[Membership](#)

[Student and
Professional
Chapters](#)

[IEOM Awards](#)

[IEOM Fellows](#)

[IJIEOM](#)

Photos of Past Events

- 2019 Bangkok
- 2018 South Africa
- 2018 Washington DC
- 2018 Paris



IEOM Society International

March 1, 2020

Important Announcement for All Participants of the 2020 IEOM Society Dubai Conference

Dear IEOM Dubai Conference Participants:

As many of you are aware, there is currently an international health crisis caused by the Coronavirus. The impact of this crisis has been felt around the globe. Your IEOM Society has monitored this situation very closely. We have also discussed this health emergency with members of our Global Council. The number of countries that are affected by the Coronavirus is significant. Each country is addressing the virus in a different manner.

The United Arab Emirates (UAE) has placed travel restrictions on flights entering their country and some restrictions in the events internally ("Dubai: The Ministry of Education has announced that all school trips, activities and events will be suspended as part of precautionary steps to limit the spread of coronavirus," Feb. 29, Gulf News). Some neighboring countries have also flight restrictions. The IEOM Society is deeply concerned with the health and safety of its members and others who will be attending the Dubai conference next week. Therefore, the IEOM Society Global Council and our Board of Directors has recommended that the conference be held as a virtual event.

A combination of virtual and recorded presentations will be used for the 10th IEOM Society Annual Dubai Conference, March 10-12, 2020. It may be necessary to have additional presentations on days beyond the schedule. Competitions will be conducted virtually as well. All papers will be published online and sent to Scopus for indexing.

The original conference programs have been printed and will be sent by mail to each registered participant. Following the conference, awards, best track papers and chapter recognitions will be mailed. The link required for you to participate in the conference will be provided shortly.

The IEOM Society regrets that this decision was necessary, but we believe it was the prudent action to take in light of the present global health dilemma. We trust that you will agree with this decision as the Coronavirus has become a very serious worldwide threat.

We are sorry for your inconveniences. Most airlines are giving refund due to virus issues. We hope virus issues will go away soon. We wish you all the best.

We look forward to your participation in the 10th IEOM Society International Dubai Conference.

Thank you for your understanding.

Sincerely,

Ahad Ali, Ph.D.
Executive Director
The IEOM Society International

Professor Don Reimer
Director of Membership and Chapter Development
IEOM Society International

Industrial Engineering and Operations Management Society International (IEOM Society International)
21415 Civic Center Dr., Suite # 217, Southfield, Michigan 48076, USA, Phone: 1-248-450-5660, www.ieomsociety.org

Please contact info@ieomsociety.org for any questions or virtual conference details.

Theme: Operational Excellence in the era of Industry 4.0

Competition Submissions deadline is January 31, 2020

Submission Link: <https://www.xcdsystem.com/IEOM/abstract/index.cfm?ID=ZY00ywj>

Registration Link:
<https://www.xcdsystem.com/IEOM/attendee/index.cfm?ID=EeYw4JD>

IEOM Society International, a 501(c)(3) non-profit organization, is a premier international platform and forum for academics, researchers, scientists and practitioners to exchange ideas and provide insights into the latest developments and advancements in the fields of Industrial Engineering and

- 2018 Bandung-1
- 2018 Bandung-2
- 2017 Dhaka
- 2017 Bogota
- 2017 Bristol, UK
- HS/MS STEM Poster Competition 2017
- 2017 Morocco Photos
- 2016 Detroit Photos
- 2016 Malaysia Photos
- 2015 Orlando Photos
- 2015 Dubai Photos
- 2014 Bali Photos
- 2012 Istanbul Photos

NEWS

Binghamton University Join as a Partner University

Upcoming Conferences

- Czech Republic
- GCC in Riyadh
- Dubai
- San Paulo
- Rome
- Monterrey
- Singapore

Past Conferences

- Bangkok, March 2019
- Pretoria, October 2018
- Washington DC, Sept. 2018
- Paris, July 2018
- Bandung, March 2018

Operations Management. IEOM has successfully organized international conferences in Dhaka (2010), Kuala Lumpur (2011), Istanbul (2012), Bali (2014), Dubai (2015), Orlando (2015), Kuala Lumpur (2016), Detroit (2016), Rabat (2017), Bristol, UK (2017), Bogota (2017), Bandung (2018), Paris (2018), Washington DC (2018), Pretoria (2018), Bangkok (2019), Pilsen (2019), Toronto (2019) and Riyadh (2019). IEOM Society will be organizing the 10th International Conference on Industrial Engineering and Operations Management (IEOM) to be held at Hyatt Regency Hotel in Dubai during March 10–12, 2020. Last Dubai Conference in 2015 has more than 500 participants. We would be expecting 400–500 people from more than 60 countries.

[PAPER \(docx\) – Paper / Abstract Template – ABSTRACT \(docx\)](#)

Some the events and activities that are planned include: keynote speakers, global engineering education track, industry solutions track, women in industry and academia track, undergraduate student paper competition sponsored by Siemens, graduate student paper competition sponsored by Eaton, Doctoral Dissertation Competition, Masters Thesis Competition, Simulation competition, senior design project poster competition, undergraduate research competition, high school STEM competition, panel sessions, recognition and awards, exhibition, poster, IEOM student and professional chapter activities and tours.

[Call for Papers Flyer](#)

All papers are subject to double peer review. IEOM Template must be followed. **Accepted papers will be indexed in SCOPUS.** Presentation can be delivered with abstract only. Full paper is optional.

Topics covering industrial issues/applications and theoretical research, but are not limited to:

- Artificial Intelligence
- Automation and Control
- Business Management
- Case Studies
- Construction Management
- Cyber Security
- Data Analytics and Big Data
- Decision Sciences
- Defense
- Design and Analysis
- E-Business/E-Service
- E-Manufacturing
- Energy
- Engineering Education
- Engineering Management
- Entrepreneurship and Innovation
- Environmental Engineering
- Financial Engineering
- Healthcare Operations and Healthcare Engineering
- Human Factors and Ergonomics
- Industrial Management
- Industry 4.0
- Industry Best Practices
- Information Technology
- Inventory Control
- IoT
- Lean Six Sigma
- Logistics
- Maintenance Services
- Manufacturing
- Modeling and Simulation

[IEOM 2017 Bogota](#)

Marriott Hotel
October 25–26,
2017

[IEOM 2017 UK](#)

UWE Business
School, Bristol
July 24–25, 2017

[IEOM 2017 Morocco](#)

Sofitel Hotel Rabat
April 11–13, 2017

[IEOM 2016 Detroit](#)

Lawrence Tech
Campus
September 23–25,
2016

[IEOM 2016 Malaysia](#)

JW Marriott KL Hotel
March 8–10, 2016

[IEOM 2016 Detroit](#)

Lawrence Tech
University
September 23–25,
2016

[IEOM 2015 Orlando](#)

Rosen Plaza Hotel
September 10–11,
2015

[IEOM 2015 Dubai](#)

Hyatt Regency Hotel
March 3–5, 2015

[IEOM 2014 Bali](#)

Grand Hyatt Hotel
January 7–9, 2014

[IEOM 2012 Istanbul](#)

Istanbul Technical
University
July 3–6, 2012

[IEOM 2011 Kuala Lumpur](#)

Season Four Hotel
January 22–24, 2011

[IEOM 2010 Dhaka](#)

IUT, Bangladesh
January 7–9, 2010

- Operations Excellence
- Operations Management
- Operations Research
- Product Lifecycle Management (PLM)
- Production Engineering
- Production Planning and Management
- Project Management
- Quality and Reliability
- Service Engineering and Service Management
- Supply Chain Management
- Sustainability
- Systems Dynamics
- Systems Engineering
- Technology Management
- Transportation and Traffic
- Waste
- Work Design, Measurement and ISO

Special Tracks

- [Global Engineering Education](#)
- [Industry Solutions](#)
- Women in Industry and Academia
- Industry 4.0

DUBAI Tourist Attractions

- **Burj Khalifa:** Burj Khalifa is a skyscraper in Dubai and with its height of 829.84 m is the tallest manmade structure in the world.
- **Burj Al Arab:** One of the most luxurious, and with height of 321m, it is fourth tallest hotel in the world; one of the most photographed monuments in the world and is recognized as the symbol of Dubai.
- Palm Island Dubai (Jumeirah Palm Island): one of the most ambitious real-estate developments on earth, heralded as the 8th wonder of the world.
- **Dubai Mall**
- **Dubai Fountain**
- **Dubai Aquarium**
- **Desert Safari:** One of the most visited and famous activities in Dubai are desert safari tours. Safari tours in Land Cruisers and Hummers take visitors right into the heart of the desert where they experience the excitement of a roller-coaster tour down the astonishing high dunes (dune bashing).
- **Dubai Marina**
- **Dubai Museum**
- **Jumeirah Mosque**
- **Gold and Spice Souks**
- **Dubai Walking Tour:** Bastakiya, Dubai Creek, Shindagha and Old Deira
- **Near to Dubai:** Abu Dhabi, Bahrain, Qatar, Dammam (Saudi Arabia) and Muscat are less than one hour flight
- Umrah packages lead by Dr. Abdul Talib Bon, UTHM, Malaysia (less than 2 hours flight from Dubai). Malaysian can get e-Visa for Saudi Arabia and other countries can use Umrah visa.

**IEOM Conference
Proceedings**
ISSN: 2169-8767
(U.S. Library of
Congress)

- [Bangkok 2019](#)
- [Pretoria 2018](#)
- [Washington DC 2018](#)
- [Paris 2018](#)
- [Bandung 2018](#)
- [Bogota 2017](#)
- [Bristol \(UK\) 2017](#)
- [Morocco 2017](#)
- [Detroit 2016](#)
- [Kuala Lumpur 2016](#)
- [Orlando 2015](#)
- [Dubai 2015](#)
- [Bali 2014](#)
- [Istabil 2012](#)
- [KL 2011](#)
- [Dhaka 2010](#)

[Launch of Women in Industry and Academia Video](#)

[IEOM Women in Industry and Academia Forum](#)



Sponsors and Partners



Emirates – Official Airline Partner

Use Promotion Code to get special fares on Emirates.

Promotion code: EVE6DG5

Travel Validity: 05 – 17 Mar 2020

Book your travel today at <http://www.emirates.com/IEOM2020>



Official Destination Partner

Dubai Tourism



Submissions Received from Following Countries and Territories

Important Dates

Paper submission deadline: **November 25, 2019**

Notification of acceptance: **November 30, 2019**

Registration deadline: **December 20, 2019**

Conference: **March 10–12, 2020**

Conference Chairs

- **Dr. Zain Tahboub**, Chief Advisor, Dubai Aviation Engineering Projects, Dubai, United Arab Emirates
- **Dr. Ahad Ali**, Lawrence Technological University, Michigan, USA
- **Dr. Mohammed Shamsuzzaman**, Associate Professor, Department of Industrial Engineering & Engineering Management Dept., University of Sharjah, UAE

- University of Sharjah, UAE
- Zayed University, Dubai, UAE
- Binghamton University, The State University of New York (SUNY), USA
- Chiang Mai University, Thailand
- Center for Advanced Systems Research and Education (CASRE), University of Tennessee, Knoxville, USA
- Eastern Michigan University, USA
- Lawrence Technological University, Michigan, USA
- Prince Sultan University, Riyadh, Saudi Arabia
- University of Derby, UK
- University of the District of Columbia (UDC), Washington, DC, USA
- University of New Brunswick at Fredericton, Canada
- University of the District of Columbia, Washington, DC, USA
- Universite De Lorraine, Nancy cedex – France
- Wayne State University, Detroit, Michigan, USA
- Universitas Sebelas Maret, Surakarta, Indonesia
- Universiti Tun Hussein Onn Malaysia (UTHM)
- EMI, Mohammed V University, Rabat, Morocco

- Eaton Corporation
- SIEMENS
- EFR Certification
- Emirates (as an official airline partner)

- ASQ Middle East Africa
- African Engineering Education Association (AEEA)
- BKSTI: Agency for Cooperation of Higher Education of Industrial Engineering, Indonesia
- Indian Institute of Industrial Engineering (IIIE)
- International Federation of Engineering Education Societies (IFEES)
- Pakistan Society of Industrial Engineering (PSIE)
- Society of Cost and Quality Engineers (SCQE)

Tourist Attractions:

Attendance Certificates will be provided for conference participants. Continuous Education Unit (CEU) is available. IEOM Society International will provide some awards and recognition at the 10th IEOM Dubai Conference.

Contact: info@ieomsociety.org

- Program – IEOM 2019 Riyadh
- Program – IEOM 2019 Toronto
- Program – IEOM 2019 Pilsen
- Program – Bangkok 2019
- Program – Pretoria 2018
- Program – IEOM 2018 Washington DC
- Program – IEOM 2018 Paris
- Program – IEOM 2018 Bandung
- Program – IEOM 2017 Bogota
- Program – IEOM 2017 UK (Bristol)
- Program – IEOM 2017 Rabat, Morocco
- Program – IEOM 2016 Detroit
- Program – IEOM 2016 Kuala Lumpur
- Program – IEOM 2015 Orlando
- Program – IEOM 2015 Dubai
- Program – IEOM 2014 Bali
- Program – IEOM 2012 Istanbul
- Program – IEOM 2011 Malaysia
- Program – IEOM 2010 Dhaka

IEOM Society International is a 501(c)(3) nonprofit organization, registered with the State of Michigan and tax exemption status approved by IRS.



Proceedings

ISSN: 2169-8767 ISBN: 978-1-5323-5952-1

ID 001 Sustainable Quality Culture: Company-Wide Management System (CWMS) and Lean Six Sigma (LSS) as Enablers

Souraj Salah, Faculty of Business Administration, Hamdan Bin Muhammad Smart University, Dubai, UAE

ID 013 Leadership for Lean Six Sigma

Alessandro Laureani, University of Strathclyde, Glasgow, Scotland, UK

ID 016 Identification & Awareness About The Development Of Breast Cancer By Using Raman Spectroscopic Method

Priya Sachin Deole., Department of physics, G.S. Tompe Art's, Commerce & Science College, Chandur Bazar, Dist. Amravati (M.S) India

Nachiket Deole, Manasi Vyankatesh Ghamande., Vishwakarma institute of technology, Pune, Maharashtra, India

ID 018 Cyber-Physical Systems: Matching Up its Application in the Construction industry and other Selected Industries

Matthew Ikuabe, Clinton Aigbavboa, Ayodeji Oke, University of Johannesburg, Johannesburg, Guateng, South Africa

ID 019 Adoption of Building Information Modelling (BIM) in Small and Medium Enterprise (SMEs) Construction Companies in Iraq

Abdussalam Shibani, Khaled Abu Awwad, Michel Ghostin, Coventry university, Coventry, United Kingdom

Kalim Siddiqui, Senior lecturer in Economics, Department of Accounting, finance and Economics, Huddersfield Business School

Omar Farji Coventry university, Coventry, United Kingdom

ID 020 Investigating the Barriers of Building Information Modelling (BIM) implementation in the Higher Education in Morocco

Abdussalam Shibani, Khaled Abu Awwad, Michel Ghostin, Coventry university, Coventry, United Kingdom

Kalim Siddiqui, Senior lecturer in Economics, Department of Accounting, finance and Economics, Huddersfield Business School

Firdaouss Sidqui, Coventry university, Coventry, United Kingdom

ID 023 Preparing International Engineering Programs for Accreditation

Albertus Retnanto, Texas A&M University at Qatar Doha Qatar,

Hamid R. Parsaei, Ph.D., P.E. Professor, Department of Industrial and Systems Engineering Texas A&M University,

Boback, ParsaeiIntegrated Technology Systems, Inc.Houston, Texas

ID 024 Building Communication Strengths and Skills for Non-native English Speaking Engineering Students

Albertus Retnanto, Texas A&M University at Qatar Doha Qatar,

Hamid R. Parsaei, Ph.D., P.E. Professor, Department of Industrial and Systems Engineering Texas A&M University,

Boback, ParsaeiIntegrated Technology Systems, Inc.Houston, Texas

ID 026 The Use of Unified Theory of Acceptance and Use of Technology in the Adoption of M-Payment

Rindang Widuri, Bina Nusantara University, West Jakarta, DKI Jakarta, Indonesia

Muhammad Kholil Industrial Engineering, Faculty of Engineering Universitas Mercu Buana, Jakarta, Indonesia

Rara Ganish Kharisma Nurbani, Industrial Engineering, Faculty of Engineering, Universitas Mercu Buana, Jakarta, Indonesia

Hendri, Electrical Engineering, Faculty of Engineering, Universitas Mercu Buana, Jakarta, Indonesia

ID 027 Efficient Identification Model of Strategic Key Dimensions in SMEs

Jean-Marc Vasnier, Mourad Messaadia, Ecole d'ingénieurs Ei.Cesi, Saint-Nazaire, France

Nicolas Maranzana, Ameziane Aoussat, Arts et Métiers – LCPI, Paris, France

ID 028 Improve computation performance on large optimization problems through heterogeneous computing

Gary Yu-Hsin Chen, National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan, Chinese Taipei

Ping-Shun Chen, Department of Industrial and Systems Engineering, Chung Yuan Christian University, Chung Li, Taiwan

ID 029 Applying Data Mining Methods to Classify Outpatients' Examination Time

Ping-Shun Chen, Chin-Hui Lai, Ying-Tzu Chen, Yu-Ju Lu, Chung Yuan Christian University Taoyuan city International Taiwan

Gary Yu-Hsin Chen, Department of Logistics Management National Kaohsiung University of Science and Technology

Kaohsiung 82445, Taiwan

ID 030 An intuitionistic fuzzy MCDM framework for selecting environmentally responsible freight transport service provider: A transport service buyer perspective

Aalok Kumar, Ramesh A., IIT Roorkee, Roorkee, India

ID 031 Outpatient Nurse Scheduling under the New Labour Law: Difficulties and Challenges Indicated by a Negative Case Study

Zheng-Yun Zhuang, National Kaohsiung University of Science and Technology, Kaohsiung, Chinese Taipei

Yu-Kuang Hsieh, Management Department, Antai Tian-Sheng Memorial Hospital, An-Tai Medical Care Corporation,

Donggang, Pingtung 928, Taiwan

Tien-Hwa Ho, Department of Information Management, Yuanpei University of Medical Technology, Xiangshan, Taiwan

ID 032 Design and Implementation of city car scale electric vehicle powered by Brushless DC Motor

Agus Ulinuha, Ibnu Shokhibul Khak, and Dimas Septian Dwi, Universitas Muhammadiyah Surakarta, Surakarta, Indonesia

ID 033 Towards Developing Quality Standards: A review for managing South Africa's Carbon Emissions

P Naidoo, Nita Sukdeo, University of Johannesburg, Johannesburg, Gauteng, South Africa

S Zuma, Eskom, Technology Division

ID 034 A Lean 7S methodology framework to improve efficiency and organizational performance: A review study in an SME organization

K. Mahlaha, Nita Sukdeo and V. Mofokeng, Department of Quality and Operations Management, University of Johannesburg,

Gauteng, South Africa

ID 035 To Investigate the Relationship between TQM Enablers Applicable In Indian Engineering Education Institutes

Ankesh Mittal, Pardeep Gupta, Manjot Singh, Department of Mechanical Engineering, SLIET sunam Punjab India

ID 037 Artificial Intelligence Technique For Detecting Bone Irregularity Using Fastai

Meghna Hooda, Shrivankumar Bachu, Surjeet Dalal, SRM University, Delhi NCR, India

Piya Ghosh, Department of Industrial and Management Engineering, Indian Institute of Technology, Kanpur, Uttar Pradesh

ID 038 Analysis of Schedule Rates for Bridge and Road Works in India using Solid Transportation Problem

Piya Ghosh, Industrial and Management Engineering Department, Indian Institute of Technology, Kanpur, India

Meghna Hooda, SRM University, Delhi NCR, Haryana, India

ID 039 Evaluation of Variability in Clinical Assessments

Alyaa Alyaarbi, Saleh Atatreh, Afraa Alsereidi, Noora Alblooshi, Sumaya Almaazmi, Raja Jayaraman, Mecit Can Emre Simsekler, Khalifa University, Abu Dhabi, UAE

Zehra Canan Araci, Abu Dhabi School of Management, Abu Dhabi, UAE Samer Ellahham, Heart & Vascular Institute,

Cleveland Clinic Abu Dhabi, Abu Dhabi, UAE

ID 040 Cross Docking Network with Multiple Types of Trucks

Takashi Irohara, Sophia University, Chiyoda-ku, Tokyo, Japan

ID 055 Optimal Periodic Preventive–Maintenance Policy For A System Where Its Failure/Repair Follows The Non–Homogeneous Pure Birth Process

Yu–Hung Chien, Wen–Ting Chang, Department of Applied Statistics, National Taichung University of Science and Technology, Taichung, Taiwan

ID 056 Exploring the Adoption of Digital Technology at the Different Phases of Construction Projects in South Africa

Matthew Ikuabe, Douglas Aghimien, Clinton Aigbavboa and Ayodeji Oke, University of Johannesburg, Guateng, South Africa

ID 057 Screening Variables using Computer Experiments: An application using a simulated furnace

Nuno Costa, Paulo Fontes, IPS–EST, Setubal, Portugal

ID 063 The Approaches for Resolving Conflicts At The Different Lifecycle Of The Project: A South African Perspective

Matthieu Bodika, Clinton O. Aigbavboa, Ifije Ohiomah, University of Johannesburg, South Africa

ID 064 The Impact of Command Buttons, Entry Fields, and Graphics on Single Usability Metric (SUM)

Gabriel John L. de Leon, Joana Patrice M. Gratuito, Ronaldo V. Polancos, Industrial Engineering Department, De La Salle University, Manila, Philippines

ID 065 The Interactional Effects of Page Layout, User Workload, and Lists in Improving the Single Usability Metric

Gabriel John L. de Leon, Joana Patrice M. Gratuito, Ronaldo V. Polancos, Industrial Engineering Department, De La Salle University, Manila, Philippines

ID 066 Multi–cyclic scheduling of identical parts in an N–machine no–wait robotic cell

DHIRENDRA PRAJAPATI, Arjun R Harish, Saurabh Pratap, PDPM IITDM Jabalpur, Jabalpur, M.P, India,
Mengdi Zhang, School of Internet of Things , Nanjing University of Posts and Telecommunications, Nanjing 210003, People's Republic of China,
Yash Daultani, Department of Operations Management, Indian Institute of Management, Lucknow, India.

ID 076 Humanitarian Engineering Initiative of Texas A&M University at Qatar; A Case Study of a Series of Successful Workshops to Enhance the Sense of Social Responsibility of Engineering Students

Sara Amani, Zohreh Eslami and Hassan Bashir, Mahmood Amani, Texas A&M University, Doha, Qatar

ID 077 Spare Parts Inventory Replenishment by Utilization of End–of–Use Returns: Case of Smartphones

Vaibhav Agrawal, Dr. Akhilesh Kumar, Indian Institute of Technology Kharagpur, Kharagpur, West Bengal, India

ID 078 A Review on City Logistics and Two Echelon Freight Modelling

Marita Madhavi Warnakulasuriya, D.H.H. Niwunhella, L.D.J.F. Nanayakkara and Ruwan Wickramarachchi, University of Kelaniya – Sri Lanka, Daluagama, Sri Lanka

ID 079 Optimization Models in Aircraft Assignment and Airline Disruption Management – A Systematic Review of Literature

P.A. Fernando, D.H.H. Niwunhella, L.D.J.F. Nanayakkara, R. Wickramarachchi, University of Kelaniya, Kelaniya, Western Province, Sri Lanka

ID 081 Implementing a Cross–Docking System in Warehouse – A Systematic Review of Literature

Neerajie Ahangamage, D. H. H. Niwunhella, Kasuni Vidanagamachchi, Ruwan Wickramarachchi, Department of Industrial Management, Faculty of Science, University of Kelaniya, Kelaniya, Western Province, Sri Lanka

ID 082 Accounting Students 'Interest In Chartered Accountant Accounting Profession (Empirical Study of Accounting Students at State and Private Universities)

Cory Paulina, Agus Dwi Sasono, Rony Wardhana, Nurul Aini, Rudi Harianto, Ariyani, Faculty Economy and Business, Narotama University, Surabaya, Indonesia
Abdul Talib Bin Bon, Fakulti Pengurusan Teknologi dan Perniagaan, Universiti Tun Hussein Onn Malaysia (UTHM), Johor, Malaysia

ID 083 An Innovative Framework To Measure The Maturity Level of Core Soft Skills and Competencies (SSCM) Needed by Project Managers in Oil and Gas Industry

Nasr Al Hinai, Esra Abusharkh, Asila Al-Shamli, Emad Summad, Sultan Qaboos University, Alkhoud, Muscat, Oman

ID 086 Proposal of optimal discount price of ready meal considering the expiration date

Yu Wakabayashi, Logistics Development Center, Kao Corporation, Tokyo, Japan

Takaaki Kawanaka, The University of Tokyo, Tokyo, Japan

Takahiro Ohno, Department of Industrial & Management Systems Engineering, School of Creative Science and Engineering, Waseda University, Tokyo, Japan

ID 088 Integrating Voice-Activated Digital Assistants with Smart Home Technologies to Support People with Long-Term Mobility Disabilities: Needs-Assessment, Product-Selection and Implementation

L. Koon, R. Khaleghi, K.A. Blocker, W.A. Rogers, Ramavarapu Sreenivas, University of Illinois at Urbana-Champaign, Urbana, IL, United States

ID 089 BREXIT: Assessing the Impact on the UK Construction Industry & Mitigating Identified Risks

Danielle Smith, Northumbria University, London, UK

Vian Ahmed, Sara Saboor, American University of Sharjah, Sharjah, United Arab Emirates

ID 091 Developing a Rectifying Inspection Plan with Repetitive Group Sampling Based on Loss-based Capability Index

Chieh-hui Ku, Chien-Wei Wu, National Tsing Hua University, Hsinchu city, Taiwan

ID 092 A New Variable-type Skip-lot Sampling Plan Based on the Process Capability Index

I-Ting Wei, Chien-Wei Wu, National Tsing Hua University, Hsinchu city, Taiwan

ID 093 Generalized Confidence Intervals for Assessing Process Performance based on Quality Yield Index

Meng-Tzu Lin, Chien-Wei Wu, National Tsing Hua University, Hsinchu city, Taiwan

ID 095 Identification of the Automotive Manufacturing Change Point Approaching Panel Data

Karim Atashgar, Naser Rafiee, Malek Ashtar University of Technology, Tehran, Iran

ID 096 Optimal promotional policy in innovation diffusion model considering brand image in segmented specific market

Pradeep Kumar, Kuldeep Chaudhary, Kanika Sardana, Department of Applied Mathematics, Amity University, Uttar Pradesh, India

ID 097 Indicator distance and color effects in comprehension of multiple time series graph

Rosemary Seva, Katrina Chinjen, Nicole Estoista, Judy Ann Wu, Industrial and Systems Engineering Department, De La Salle University, Manila, Philippines

ID 098 Vehicle Routing Problem for Multi-Product Cross-Docking

Aldy Gunawan, Audrey T. Widjaja1, Benjamin Gan Kok Siew, Singapore Management University, Singapore

Vincent F. Yu, Panca Jodiawan, Department of Industrial Management, National Taiwan University of Science and Technology, Taipei, Taiwan

ID 099 Measure of Bullwhip Effect in a Closed-loop Supply Chain with Two Retailers under Price-sensitive non-ARMA Demand Process

Bibhas Giri, Jadavpur University Kolkata West Bengal India

ID 100 Analysis Model of Communication Network under Complexity

Nyunho Jung, The University of Fukuchiyama, Fukuchiyama, Kyoto, Japan

Takaaki Kawanaka, Institute for Innovation in International Engineering Education, Graduate School of Engineering, The University of Tokyo, Tokyo, Japan

Hiroshi Yamashita, Department of Commerce, Meiji University, Tokyo, Japan

ID 101 Systematic Review of Literature on Lean and Six Sigma in Healthcare and Directions for Future Research

Rodrigo E. Peimbert-García, Tecnológico de Monterrey / Macquarie University, Monterrey / Sydney, New South Wales, Mexico

Timothy Matis, Department of Industrial Engineering, Texas Tech University, Lubbock, USA

Jonathan Cuevas-Ortuño, Tecnológico de Monterrey / Macquarie University, Monterrey / Sydney, New South Wales, Mexico

Samuel M. Nucamendi-Guillen, Department of Industrial Engineering, Universidad Panamericana, Guadalajara, Mexico

ID 109 Monitoring a cold rolling process using Xbar&EWMA charts

Mohammad Shamsuzzaman, Salah Haridyb, Hamdi Bashird, Imad Alsyoufc, University of Sharjah, Sharjah, United Arab Emirates

ID 110 Optimization design of economic EWMA control chart based on random process shifts

Mohammad Shamsuzzaman, Salah Haridyb, Hamdi Bashird, Imad Alsyoufc, University of Sharjah, Sharjah, United Arab Emirates

ID 111 System Dynamics Applications in Healthcare: A Literature Review

Jesús Isaac Vázquez-Serrano, School of Engineering and Sciences, Tecnológico de Monterrey, Monterrey, NL 64849, Mexico
Rodrigo E. Peimbert-García, School of Engineering and Sciences, Tecnológico de Monterrey, Monterrey, NL 64849, Mexico /
School of Engineering, Macquarie University, Sydney, NSW 2109, Australia

ID 112 Optimal Integrated Maintenance, Production and Spare Parts Strategy for Wind Turbines System

Faker Abderrahmane and Bouslikhane Salim, Electrical Engineering Department, Universiapolis, Agadir, Morocco
Hajej Zied, Université de Lorraine, METZ, France

ID 113 Impact of Intellectual Capital on the Performance of Higher Education Institutions

Chandan Jha, Amit Sachan, Arnab Adhikari, Sayantan Kundu, Indian Institute of Management Ranchi, India

ID 125 Modeling a Bi-Objective Multi-Skill Resource-Constrained Project Scheduling Problem to Minimize Project Makespan and Skill Divergence Span

Dheeraj Joshi, Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur, India
M.L. Mittal, Manish Kumar, Professor, Deptt. of Mechanical Engineering, Malaviya National Institute of Technology, Jaipur

ID 126 An Investigation on Assessing Process Capability Indices under Weibull distribution

Chun Yi Chang, Chien-Wei Wu, National Tsing Hua University, Hsinchu city, Taiwan

ID 127 Developing a Two-stage Sampling plan for products with an Unilateral Specification Limit

Yuting Won, Chien-Wei Wu, National Tsing Hua University, Hsinchu city, Taiwan

ID 129 Optimal Operation Policies for Vendor Machines with Product Dedicated Variant Towers

Ertan YAKICI National Defence University İstanbul Türkiye Turkey
Haci Sahin, Prof. Dr. Serhan Duran, Industrial Engineering Department Middle East Technical University Ankara, Turkey

ID 136 Integrated optimization problem of Maintenance and Lot-Sizing with Risk assessment

Mohamed Ali Kammoun, Zied Hajej and Nidhal Rezg, Laboratoire de Génie Informatique, de Production et de Maintenance, Metz, France

ID 137 Construction Industries' LCA Adaptability: A Desk Study based SWOT Analysis

S. D. I. A. Amarasinghe and H. Chandanie, University of Moratuwa, Moratuwa, Western Province, Sri Lanka

ID 138 Factors contributing to Building Fire Incidents: A review

R.M.D.I.M. Rathnayake, P. Sridarran, and M.D.T.E. Abeynayake, University of Moratuwa, Moratuwa, Western Province, Sri Lanka

ID 139 Identifying the Most Influencing Success Factors of TQM Implementation in Manufacturing Industries using Analytical Hierarchy Process

Pardeep Gupta, Ankesh Mittal, Sliet, Longowa, Sangrur, Punjab, India

ID 140 Assessment of Safety Culture in Three Selected Thermal Power Plants Situated in Sylhet, Bangladesh

Mohammad Iqbal, Md. Abdul Aziz, A. T. M. Sayeed Istiaque, Salma Akhter, Shahjalal University of Science and Technology, Sylhet, Bangladesh

ID 141 Survey Design to Evaluate Healthcare System Resilience at Barangay Level in the Philippines

Mary Jean Azuela, Dennis Paul Orge, Mary Grace Valdez, and Giselle Joy Esmeria, De La Salle University - Laguna Campus (Philippines), Sta. Rosa, Philippines

ID 144 The Relationship of TQM and Lean Production Towards Integrated Application

Romulo Ulibas, Tarlac State University Calamba Laguna Philippines

ID 145 Impact of 'check sheet' and 'flow chart' to improve quality and efficiency of finishing unit in a garment industry

Anowar Parvez, BCMC College of Engineering and Technology, Bangladesh

Israt Parveen, Mawlana Bhashani Science & Technology Univrsity, Tangail, Bangladesh

Md. Iqbal Mahmud, Department of Textile Engineering, Mawlana Bhashani Science and Technology University, Bangladesh

Haeng Muk Cho, Department of Mechanical Engineering, Kongju National University, South Korea

ID 146 Analysis of School Performance in Delhi, India using Decision Tree Algorithm

Abhishek Bhatnagar, Nomesh B. Bolia, Department of Mechanical Engineering, Indian Institute of Technology Delhi, New Delhi, India

ID 147 Study on Analysis Model of Motivation for ICT Education in Companies

Shoichi Kaneko, Yamanashi Gakuin University, Kofu city, Yamanashi, Japan

Takaaki Kawanaka, Institute for Innovation in International Engineering Education, The University of Tokyo, Tokyo, Japan.

Nyunho Jung, Faculty of Business, The University of Fukuchiyama, Kyoto, Japan

Hiroshi Yamashita, Department of Commerce, Meiji University, Tokyo, Japan

Masanobu Matsumaru, Mechanical and Industrial Engineering Department, Kanagawa University, Kanagawa, Japan

ID 148 Liveability Concept for Development of Urban Built Environment: Case of Sri Lanka

Maheshi Tennakoon, Udayangani Kulatunaga, Department of Building Economics, University of Moratuwa, Sri Lanka

ID 149 Wind-Induced Damages on Roofs: The Case of Sri Lanka

Ekanayake B.J., School of Built Environment, University of Technology Sydney, Australia

Udayangani Kulatunga, University of Moratuwa, Moratuwa, Colombo, Sri Lanka

ID 150 Impact of Environmental Law and Physical Planning Law to the Construction Projects in Sri Lanka

Isuru Pramodh Rathnasinghe, Akila Pramodh Rathnasinghe, Mahesh Devinda Abeynayake, Department of Building Economics, University of Moratuwa, Moratuwa, Western Province, Sri Lanka

ID 152 Multi-objective Green Vehicle Routing Optimization

Erangi Waidyathilaka, V.K. Tharaka, Dr. R. Wickramarachchi, University of Kelaniya, Kegalle, Sabaragamuwa, Sri Lanka

ID 153 Model to Assess Consumer Switching Behavior

Sivakumaran Vahiny, Suren Peter, University of Kelaniya, Dalugama, Western Province, Sri Lanka

ID 154 Optimal EWMA Chart for Monitoring Failure Rate

Salah Haridy, Mohammad Shamsuzzaman, Imad Alsyoud, Hamdi Bashir, University of Sharjah, Sharjah, United Arab Emirates

Ahmed Magede, Department of Systems Engineering and Engineering Management, City University of Hong Kong, Kowloon, Hong Kong

Nadia Bhuiyan, Department of Mechanical and Industrial Engineering, Concordia University, Montreal, Quebec, Canada H3G 1M8

ID 155 Employee Competencies Development Framework for Industry 4.0 Adaptation in the Healthcare Sector

Thilini Weerasinghe, Kasuni Vidanagamachchi, L.D.J.F. Nanayakkara, University of Kelaniya, Sri Lanka

ID 157 The Relationship Between Occupational Stress and Job Performance: An Empirical Study in a South African Contact Centre

Nokukhanya Ndlovu Department of Quality and Operations Management University of Johannesburg, Johannesburg Gauteng, South Africa

ID 158 A Salient Feature for Enhancing the Detection Speed of EWMA Scheme

Salah Haridy, Mohammad Shamsuzzaman, Hamdi Bashir, Imad Alsyoud, University of Sharjah, Sharjah, United Arab Emirate

Ahmed Magede, Department of Systems Engineering and Engineering Management, City University of Hong Kong, Kowloon, Hong Kong

Nadia Bhuiyan, Department of Mechanical and Industrial Engineering, Concordia University, Montreal, Quebec, Canada H3G 1M8

ID 159 Readiness Assessment for Industry 4.0 in Sri Lankan Apparel Industry

Erandika Lakmali, K. Vidanagamachchi, L.D.J.F. Nanayakkara, Department of Industrial Management, Faculty of Science, University of Kelaniya, Kelaniya, Western Province, Sri Lanka.

ID 160 An Advanced Transportation System Based on Internet of Things

Sotiris P. Gayialis, Grigorios D. Konstantakopoulos, Evripidis P. Kechagias, Georgios A. Papadopoulos, National Technical University of Athens, Athens, Greece

ID 161 A Practical Tool for Scheduling Interrelated Activities

Hamdi Bashir, Salah Haridy, Mohammad Shamsuzzaman, Imad Alsyoud, University of Sharjah, Sharjah, United Arab Emirates

ID 162 Optimizing the Maintenance Policy of Offshore Wind Power Systems: A Two-step Approach

Vincent F. Yu, National Taiwan University of Science and Technology, Taipei, Taiwan

Le Thi Huynh Anh, Faculty of Project Management, The University of Danang, University of Science and Technology, Danang City, Vietnam

Hsiu-I Ting, National Taipei University of Technology, Taipei, Taiwan

ID 163 Lean Warehousing: A Case Study in a Retail Hypermarket

Hamdi Bashir, Mohammad Shamsuzzaman, Salah Haridy, Imad Alsyoud, University of Sharjah, Sharjah, United Arab Emirates

ID 164 A Knowledge Transfer Model to Implement Lean Practices for Apparel Industry based Multi-stakeholder 3PLs

Lakshika Gamini, Kasuni Vidanagamachchi and Ruwan Wickramarachchi, University of Kelaniya, Ambalangoda, Sri Lanka

ID 165 A Literature-Based Survey on Industry 4.0 Technologies for Procurement Optimization

Sachini Chandrasekara, Kasuni Vidanagamachchi, Ruwan Wickramarachchi, University of Kelaniya, Ratnapura, Sri Lanka

ID 166 Model to Assess Risk Perception and Behaviour of Individuals

Mevuni Mendis, Suren Peter, University of Kelaniya, Sri Lanka, Dalugama, Western Province, Sri Lanka

ID 167 The Entrepreneurial Youth Profile. A Case Study

Jeanette del Pilar Ureña Aguirre, Javier Chiza López, Oviedo-Pantoja Winston, Maya-Nicolalde Mayra, Marcelo Cevallos

Vallejos, Universidad Técnica del Norte, Ibarra, Imbabura, Ecuador

ID 168 Optimizing Inventory Management in Blood Supply Chains: A Literature Review

Radika Gunawardana, K. Vidanagamachchi, L.D.J.F. Nanayakkara, Department of Industrial Management University of Kelaniya Kelaniya Gampaha Sri Lanka

ID 169 Exploratory Evaluation of Dry Ports in Northeast of Brazil

Thiago De Almeida Rodrigues, Caroline Maria de Miranda Mota, Federal University of Pernambuco, Recife, Brazil

Gordian Udechukwu Ojiako Jr, Industrial Engineering & Engineering Management Department, University of Sharjah, Sharjah, UAE

ID 170 Corporate Value Prediction Model and Sensitivity Analysis of Taiwan Traditional Industry Based on Machine Learning Algorithm

Hsiao-Tien Pao, Chih-Hung Yu, and Hsin-Chia Fu, National Chiao Tung University, Hsinchu, Taiwan

ID 171 Moving from Lean to Leagile: A Framework to Improve Supply Chain Performance of Fashion Garment Manufacturing in Sri Lanka

Dulanji Perera, Ruwan Wickramarachchi, Nadeesha Abeysekara, Kasuni Vidanagamachchi, Department of Industrial Management, University of Kelaniya Kelaniya Western Province Sri Lanka

ID 173 Risk and Resilience analysis for Industry 4.0 in achieving the goals of Smart Logistics: An overview

Priyanka Verma, National Institute of Industrial Engineering Mumbai, India

Vijaya Dixit, Operations Management, Indian Institute of Management, Ranchi, Jharkhand, India

Jyoti Kushwaha, National Institute of Industrial Engineering Mumbai, India

ID 174 A Study on Present E-Waste Scenario in Chattogram City, Bangladesh

Hasin Ahmed, Mohammad Iqbal, Abdullah-Al-Nadim, Shahrin Iqbal, Shahjalal University of Science and Technology, Sylhet, Bangladesh

ID 175 Aggressive Driving Behavior: A Case Study of Mehran UET, Jamshoro, Pakistan

Muhammad Ahmed Kalwar, Muhammad Ali Khan, Shakil Ahmed Shaikh, Abdul Salam Soomro, Muhammad Saad Memon and

Sarmad Ali Khaskheli, Industrial Engineering & Management, Mehran UET, Jamshoro, Sindh, Pakistan

ID 177 Compative Study Of Queuing Systems Of Medical Opds Of Two Public Hospitals

Sarmad Ali Khaskheli, Hussain Bux Marri, Murlidhar Nebhwani, Muhammad Ali Khan and Muhammad Ahmed, Industrial Engineering & Management, Mehran UET, Jamshoro, Sindh, Pakistan.

ID 178 Impact of Workplace Conditions on Level of Employee Satisfaction

Judith Mhlanga, Anup Pradhan, University of Johannesburg, Johannesburg, South Africa
Oludolapo Akanni Olanrewaju, Department of Industrial Engineering, Durban University of Technology, South Africa

ID 179 Factors affecting Purchasing Behaviour of Generation Z

Nadeesha Kahawandala, Suren Peter, University of Kelaniya, Kelaniya, Western, Sri Lanka

ID 180 Transforming Agriculture Supply Chain with Technology Adoption--: A Critical Review of Literature

Chapa Karunanayaka, Kasuni Vidanagamachchi and Ruwan Wickramarachchi, University of Kelaniya, Sri Lanka

ID 189 Preliminary Study on the Identification, Analysis and Elimination of Lean Manufacturing Wastes through Lean Manufacturing Practices at Yarn Manufacturing Industry

Muhammad Ali Khan and Hussain Bux Marri, Industrial Engineering & Management, Mehran UET, Jamshoro, Sindh, Pakistan.
Awaiz Khatri, Textile Engineering, Mehran UET, Jamshoro, Sindh, Pakistan.

ID 190 Productivity Improvement by the Implementation of lean manufacturing practice (takt time) in an automobile assembling plant

Shahzain Rajput, Muhammad Ali Khan, Sajid Samejo, Ghulam Murtaza and Rao Atif Ali. Industrial Engineering & Management, Mehran UET, Jamshoro, Sindh, Pakistan.

ID 191 A Study for the identification and elimination of lean manufacturing wastes at the pharmaceutical production plant

Sohail Ahmed Sahito, Muhammad Ali Khan, Aijaz Ahmed Arain, Sadakat Ali Bhutto, Rehmatullah Wadhyo and Shahbaz Ali Memon, Industrial Engineering & Management, Mehran UET, Jamshoro, Sindh, Pakistan.

ID 192 A Case Study for Performance Evaluation of Motorcycle Assembly Line through the Lean Manufacturing Practice of Overall Equipment Effectiveness (OEE)

Suresh Kumar, Muhammad Ali Khan, Sohail Ahmed, Aness-ur-Rehman and Emraan Luhar, Industrial Engineering & Management, Mehran UET, Jamshoro, Sindh, Pakistan.

ID 194 Selecting a Condition Monitoring Technology to Monitor Automotive Lubrication System Using Fuzzy-TOPSIS

Ahmed Bingamil, Imad Alsyouf, Ali Cheaitou, Iyad Alawaysheh, University of Sharjah, Dubai, United Arab Emirates

ID 195 Analysis of "Mathematics Proficiency" Online Course Data through Process Mining

Sagit Kedem-Yemini, Sapir Academic College Sderot, Sha'ar Ha-Negev, Israel
Dor Tiram, Shir Berenson, Ifat Menashe and Gadi Rabinowitz, Industrial Engineering and Management Department, Ben-Gurion University, Beer Sheva, Israel

ID 196 Productivity Improvement at a Soft Drink Manufacturing Company: A Case Study

Judith Mhlanga, Anup Pradhan, Department of Quality and Operations Management, University of Johannesburg, Johannesburg, South Africa

ID 197 The Impact of Inventory Control on Productivity of Steel Firms

Theminkosi Luthuli, Anup Pradhan, University of Johannesburg, Johannesburg, Gauteng, South Africa

ID 204 CRM Dimensional Analysis and ANP Method for Oil and Gas Industry Sub-contractor in Indonesia in the Context of Reducing Customer Complaints

Rahmat Nurcahyo, Dody Prasetyo N., Yadrifil, Muhammad Habiburrahman and Nurhadi Wibowo, Industrial Engineering Department, Faculty of Engineering Universitas Indonesia Depok, Indonesia

ID 205 Business Process Reengineering For Reducing Time Of Procurement and Inventory Process in Telecommunication Tower Company

Rahmat Nurcahyo, Indramawan, Yadrifil, Muhammad Habiburrahman and Nurhadi Wibowo, Universitas Indonesia, Barat, Indonesia

ID 206 Statistical Quality Control in MSMEs of Recycled Plastic Wood

Andrés R. Cruz Herrera, Lupe P. Taimal Cuasapud, Jeanette del P. Ureña Aguirre, Santiago M. Vacas Palacios, Leandro L. Lorente Leyva, Universidad Técnica del Norte, Ibarra, Imbabura, Ecuador

ID 208 Sustainable Supply Chain Concerns in Diamond Industries

Akhilesh Barve, Saket Shanker, Maulana Azad National Institute of Technology Bhopal, MP, India

ID 210 Lean in a High Mix, Low Volume Manufacturing Environment – Case study

Anees Hussain, Jose Eduardo Munive-Hernandez, Felician Campean, University of Bradford, West Yorkshire, United Kingdom

ID 219 Productive Social Innovation in the Provinces of Imbabura and Carchi

Mayra Maya, Winston Oviedo, Jeanette Ureña and Javier Chiza, Facultad de Ingeniería en Ciencias Aplicadas, Universidad Técnica del Norte, Ibarra, Ecuador

ID 220 Hybrid Methodology for application development of the mobile learning type

Javier Chiza López, Jeanette del Pilar Ureña-Aguirre, Oviedo-Pantoja Winston, Maya-Nicolalde Mayra, Cevallos Vallejos Marcelo, Carrera de Ingeniería Industrial, Facultad de Ingeniería en Ciencias Aplicadas, Universidad Técnica del Norte, Ibarra, Ecuador

ID 223 Assessing Systematic Literature Review Bias: Kaizen Events in Hospitals Case Study

Fernando Gonzalez Aleu, Francisco Flores, Jimena Perez, Roy Gonzalez, Universidad De Monterrey, San Pedro Garza Garcia, Nuevo Leon, Mexico

Jose Arturo Garza-Reyes, Centre for Supply Chain Improvement, University of Derby, Derby, DE22 1GB, UK

ID 224 Quality Improvement Projects in Catheterization Laboratories: A Systematic Literature Review

Cecilia Rodriguez Martinez, Fernando Gonzalez Aleu, Edgar Granda, Universidad De Monterrey, San Pedro Garza Garcia, Mexico

Simon Peter Nadeem, Centre for Supply Chain Improvement, University of Derby, Derby, DE22 1GB, UK

ID 225 Finding The Causes Of Accident In Suger Factory And Their Preventions In Bangladesh

Mohammad Iqbal, Md. Abdullah Abu Sayeed, Salma Akhter, A.R.M. Harunur Rashid, Islamic University of Technology (IUT), Gazipur, Dhaka, Bangladesh

ID 233 A Systematic Review of Performance Measurement Models for Smart Cities

Aravindi Samarakkody, H. M. N. Dilum Bandara, Udayangani Kulatunga, Department of Building Economics, University of Moratuwa, Homagama, Sri Lanka

ID 234 A Sustainable Travelling Purchaser Problem Model

Khalid Khamis, Sustainable Engineering Asset Management (SEAM) Research Group, University of Sharjah and Vision Ps Gmbh, Sharjah, U.A.E

Sadeque Hamdan, Laboratoire Génie Industriel, Centrale Supélec, Université Paris-Saclay, 91192 Gif-sur-Yvette, France

Ali Cheaitou, Imad Alsyouf, Sustainable Engineering Asset Management (SEAM) Research Group, University of Sharjah, Sharjah, U.A.E

ID 235 Routing of Unmanned Aerial Vehicles: State of Art

Anwar Hamdan, Sadeque Hamdan, Ali Cheaitou, Imad Alsyouf, University of Sharjah, Sharjah, United Arab Emirates

Jonas Lundberg, Department of Science and Technology, Linköping University, Norrköping, Sweden

ID 236 A Theoretical Review of the State of Infrastructure in Africa

Olushola Akinshipe, Clinton Aigbavboa, University of Johannesburg, Johannesburg, Gauteng, South Africa

ID 237 Organisational Behaviour and Success of Construction Projects

Clinton Aigbavboa, Olushola Akinshipe, Madidimalo Mutshaeni, University of Johannesburg, Gauteng, South Africa

ID 238 An Ergonomic Approach on Facilities and Workstation Design of Public School Canteen in the Philippines

Ma. Janice J. Gumasing, Eidref Joseph E. Espejo, Mapua University, Manila, Philippines

ID 239 A Biomechanical Risk Assessment of Lifting Tasks in the Logistics Industry in the Philippines

Ma. Janice J. Gumasing, Romeo Carlo J. Casela, Mapua University, Manila, Philippines

ID 240 The Effects of Energy Expenditure on the Mental Fatigue of Construction Workers

Ma. Janice J. Gumasing, Claire Marie A. Llamas and Czarina Anne A. Martin, Mapua University, Manila, Philippines

ID 242 Assuring quality, accuracy and validity of test results in the laboratory for Sedibeng Water

Khanti Dyonase, Nomalungelo Magwaza, University of Johannesburg, Gauteng, South Africa

ID 243 A Life Cycle Assessment (LCA) – Based Approach in the Development of a Re–Circulation System for Secondhand Textbooks in the Philippines

Marvin I. Noroña, Mark Andrew D. Acot, School of Industrial Engineering and Engineering Management, Mapua University Manila, Manila, Philippines

ID 244 Risk and Safety Assessment on the Production of Firecrackers in Bulacan, Philippines

Marvin I. Noroña, Cherry Jean D. Bondal, Mapua University, Manila, Philippines

ID 245 An Integrated Decision–Making Model in Building or Expanding Health Facilities

Marvin I. Noroña, Katherine D. Gavino, Mapua University, Manila, Philippines

ID 247 Exploring the Potentials of Project Controls within the Construction Industry: Drivers and Challenges

Heveine baban, Krisanthi Seneviratne, Yasemin Nielsen, Heriot Watt University Dubai, United Arab Emirates

ID 248 Performance of Two–Component Systems with Imperfect Repair

Mohammed Ali Hajeesh, Shaima M. AlShamali, Wafa Awadh, Kuwait Institute For Scientific Research, Kuwait

ID 251 Centralized Versus Decentralized Sewage Treatment Plant in a Metropolitan City

M. Affan Badar, Indiana State University, Terre Haute, IN, United States

Senthilkumar Venkatachalam, Department of Civil Engineering, Indian Institute of Technology – Palakkad, Kerala, India

Zahraa A. Yousif Sani, Department of Industrial Engineering and Engineering Management, University of Sharjah, UAE

ID 253 Scheduling of Diffusion Furnace in Semiconductor Manufacturing – A Literature Review, Classification and Simple Meta–Analysis

Vimala Rani M Indian Institute of Technology Kharagpur West Bengal, India,

M. Mathirajan, Department of Management Studies, Indian Institute of Science (IISc)–Bangalore

ID 269 Integrating A Systems Model into Global Engineering Education Pedagogy

Adedeji Badiru, Air Force Institute of Technology, Dayton, Ohio, United States

ID 270 Mobile Application: The Study of Diverseness of Renewable Energy for Primary School Students

Myzan Noor, Siti Najihah Osmanuddin, University Kuala Lumpur Kuala Lumpur wilayah persekutuan Malaysia

ID 271 Facility Management System Improvement of the Philippine National Railways

Madonna F. Andrada, Aivan Kurt Russel B. Alfaro, Jerren A. Cruz, Mapua University, Manila, Philippines

ID 272 Layout Design Model for Independent Grocery Stores in the Philippines

Madonna F. Andrada, Habakuk L. Prudenciano, Justin B. Reyes, Mapua University, Manila, Philippines

ID 273 A Facilities Planning Approach on Tenant Mix and Positioning of a Community Shopping Mall

Madonna F. Andrada, Johanz Matthew M. Rivera, Mapua University, Manila, Philippines

ID 274 Deep Reinforcement learning based RecSys using Distributed Q table

Ritesh Kumar, IIT Kharagpur, Kharagpur, West Bengal, India

Ravi Ranjan, Publicis Sapient, Bengaluru, India

ID 275 Mastering Customer Journeys to Enhance Customer Experience and Competitive Advantage

Sunil Thawani, Quality Indeed Consulting Ltd., Abu Dhabi, United Arab Emirates

ID 278 Evaluating the feasibility of effective E Waste management: Case Study

Ignatio Madanhire, University of Johannesburg, Johannesburg, Gauteng, South Africa

Kumbi Mugwindiri, Charles Mbohwa, Department of Mechanical Engineering, University of Zimbabwe, Harare, Zimbabwe

ID 279 Optimization of Digital Advertising Portfolio using Analytical Hierarchy Process (AHP)– Based Goal Programming (GP) Model

Rex Aurelius C. Robielos, Neil T. Awit, Mapua University, Manila, Philippines

ID 280 Analyzing the Efficiency of the Top Non–Life Insurance Companies in the Philippines: Derivation of Common Weights in Data Envelopment Analysis (DEA) using Goal Programming Approach

Rex Aurelius C. Robielos, Joshua James A. Bravante, Mapua University, Manila, Philippines

ID 283 A Single–Level Forecasting Inventory Simulation Model Integrating Downstream Forecast Information

Rene D. Estember, Antonio Luis B. Juarez, Jonathan N. Concepcion, Raymond Junrong S. Zhuang, School of Industrial Engineering and Engineering Management, Mapua University, Manila, Philippines,
Tsai–Chi Kuo, Department of Industrial Management, National Taiwan University of Science and Technology, No. 43, Keelung Rd., Sec. 4, Da’an Dist. Tapei 10607, Taiwan/Department of Industrial and Systems Engineering, Chung Yuan Christian University, 200 Chung Pei Road, Chung Li District, Taoyuan City, Taiwan, R. O. C.

ID 285 The Important Criterion to Select the Optimum Maintenance Strategy in Jordanian Food Industry

Osama Al Meanazel, Ahmad Saad, Mazin H. Obaidat, Hesham A. Almomani, Ahmad M. Qamar, The Hashemite University Al Zarqa, Jordan

Rami H Fouad, Department of Industrial Engineering, University of Jordan, Amman, Jordan

ID 300 Integrated Production and Maintenance Planning: A Comparison between Block Policies

Ahmed Al Shehni, Ali Cheaitou and Imad Alsyouf, University of Sharjah Sharjah, Sharjah, United Arab Emirates,
Sadeque Hamdan, Laboratoire Génie Industriel, Centrale Supélec, Université Paris–Saclay, 91192 Gif–sur–Yvette, France,
Rim Larbi, Institut d’Innovation en Logistique du Québec , 1111 rue Lapierre, Montréal, H8N 2J4, Canada & University of Carthage, National Engineering School of Carthage, UR–OASIS–ENIT, Tunis, Tunisia

ID 302 An In–Depth Study on Challenges Faced By Junior Coal Mining Companies in South Africa

Henry Ncube, University of Johannesburg, Johannesburg, Gauteng, South Africa

ID 304 Webpage Development of Group Buying Websites Focusing on Web Usability and Interface Design

Rene D. Estember, Katrina Mae B. Procopio, Mapua University, Manila, Philippines

ID 305 Public policy and projects: making connections and continuing the conversation

Eman Jasim Hussain AlRaesi, Udechukwu Ojiako, University of Sharjah, Sharjah, United Arab Emirates

ID 306 Statistics on Woven carpet using T–Test to Compare Colored Yarns

Ahmad Yame, Lawrence Technological University, Dearborn, MI, United States

ID 310 Survey–based statistical data and totaling long columns of numbers on Lean Manufacturing; Case Study

Ahmad Yame, Lawrence Technological University, Dearborn, MI, United States

ID 312 Solution Approaches for the Berth Allocation Problem in Container Terminal Logistics – A Review

Ankita Panchariya, M. Mathirajan, Indian Institute of Science Bangalore, Bangalore, Karnataka, India

ID 315 A Simple Multivariate Bubble Point Correlation for Deep Offshore Niger Delta Crude

Jonathan Francis, Joseph Ajenka, African Centre of Excellence in Oilfield Chemicals (ACE–CEFOP), Port Harcourt, Rivers, Nigeria

ID 316 Real–time Monitoring of the Semiconductor Wirebond Interconnection Process for Production Yield and Quality Improvement

Reymart Rio C. Haldos, Patricia Angela R. Abu, Carlos M. Oppus, and Rosula S.J. Reyes, Ateneo de Manila University, Quezon City, Philippines

ID 318 An Examination of the Project Management Research Agenda and Schools of Thought

Alya Abuseem, University of Sharjah, Sharjah, United Arab Emirates

ID 319 Tufted Woven Carpet with Enhanced Machine Mechanism Properties Using Response Surface Design Analysis

Ahmad Yame, Lawrence Technological University, Dearborn, MI, United States

ID 320 Synthesis and Interaction with Waste in Trico Factory Layout and Cycle time analysis

Ahmad Yame, Lawrence Technological University, Dearborn, MI, United States

ID 321 Method for Producing advanced Carpeting Using a HTC factor

Ahmad Yame, Lawrence Technological University, Dearborn, MI, United States

ID 322 Modeling the Starting Values for the Textile industry: The Application of Nonlinear Regression Analysis

Ahmad Yame, Lawrence Technological University, Dearborn, MI, United States

ID 323 An implementation of the variance analysis (ANOVA) for Matters factory at Fisher Pairwise Comparisons Level

Ahmad Yame, Lawrence Technological University, Dearborn, MI, United States

ID 326 Using the ANP Approach for Assessing Supply Risks in a Manufacturing Logistics Chain

Cheimaa ABOUESSOUROUR, Khalid BENHIDA, LAPSSII, ESTS, University Cadi Ayyad, Marrakech, Morocco

ID 327 A Decision-based Design Framework for a Commercial Product

Tanvir Ibna Kaisar, and Kais Zaman, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh

ID 329 A State Of Art In Managing Municipal Solid Waste Through A Cultural Perspective

D.M.G.B.T. Kumarasiri, Nayanathara De Silva, D.M.P.P. Dissanayake,
Department of Building Economics, University of Moratuwa, Sri Lanka
Aparna Samaraweera, School of Natural and Built Environments, University of South Australia, Australia

ID 330 Service Quality Assessment for Information Technology Department: The Case of a Higher Education Institution in the Philippines

Josephine D. German and Risha Angela H. Santiago, Mapua University, Manila, Philippines

ID 336 Study of Key Enablers of Industry 4.0 Practices Implementation Using ISM-Fuzzy MICMAC Approach

Sunil Luthra Government Polytechnic Jhajjar, India,
Gunjan Yadav, Production Engineering Department, Veermata Jijabai Technological Institute, Mumbai, India,
Anil Kumar, Anthony Anosike, Centre for Supply Chain Improvement, The University of Derby, Derby, United Kingdom,
Sachin Kumar Mangla, Knowledge Management and Decisions, Plymouth Business School, University of Plymouth, United Kingdom,
Dixit Garg, Department of Mechanical Engineering, National Institute of Technology, Kurukshetra, India

ID 337 A Quality Control Application in a Furniture Company

Mehmet Savsar, Hazza Alotaibi, Kuwait University, Safat, Kuwait

ID 338 A Simulation-based Optimization Approach to Facility-Allocation under Demand Uncertainty and Enforced Level of Service

Joyjit Bhowmick, Trade Services (Pvt.) Ltd., Dhaka, Bangladesh

ID 339 A Systematic Review on Halal Supply Chain Research

Azmi Muhammad Islam, Andy Susilo Lukito-Budi, Nurul Indarti, Universitas Gadjah Mada, Sleman, Indonesia

ID 340 Long Term Energy Development Pathways for Nigeria: A Scenario Based Analysis

Najib Aminu Ismail, Md. Mizanur Rahman, Muhammad Ali Abuelnour, Ihab Jabbar, Aminuddin Saat, UTM, Johor Bahru, Malaysia
Muhammad Usman Kaisan, Department of Mechanical Engineering, Ahmadu Bello University, Zaria, Kaduna, Nigeria

ID 342 Production Stages and Data of Study are Analyzed as System Throughput Optimization

Ahmad Yame, Lawrence Technological University, Dearborn, MI, United States

ID 343 Applications and Theoretical Research for Fabric Manufacturing and Influence of Descriptive Statistics

Ahmad Yame, Lawrence Technological University, Dearborn, MI, United States

ID 345 Impact of the ISO 9001:2008 International Standard on Project Success

David Toluwani Akinnusi and Hannelie Nel, University of Johannesburg, Johannesburg, Gauteng, South Africa

ID 346 Responsible Manufacturing Practice Be The Right Paradigm– Perspective Bangladesh

Md Ziaur Rahman, Metropolitan University, Sylhet Metro, Sylhet, Bangladesh

Mohammad Iqbal, Professor, Industrial & Production Engineering Department, Shahjalal University of Science & Technology, Sylhet, Bangladesh

ID 347 Statistical Analysis of Wind Speed Distribution for Energy Application in Saudi Arabia

Tayeb Brahimi, Nehal Alyamani, Amal E. AbdelGawad, Shereen Sibie, Effat University, Jeddah, Makkah, Saudi Arabia

ID 349 Trust in Smart Energy Meters: The Role of Perceived values

Ahmed Shuhaiber, Zayed University, Abu Dhabi city, United Arab Emirates

ID 350 Closed-loop Supply Chain for Water Desalination: A Performance Measurement Model

Hasan Balfaqih, University of Business and Technology, Jeddah, Makkah, Saudi Arabia

ID 355 Supply Contract Analysis for an Eco-friendly Textile Supply Chain

Arnab Adhikari, IIM Ranchi, Ranchi, Jharkhand, India

ID 357 Quality Assurance In Education Based on Six Sigma Tool

Ameen Abdulla M.S, Mohammed Navas O.P, Amal M.S, and Bismil Nizam, Dr.Kavilal E.G, Department of Mechanical Engineering, Sree Chithra Thirunal College of Engineering, APJ Abdul Kalam Technological University, Kerala,India

ID 358 Competitiveness In Global Transformation: A Systematic Review

Nurhadi Wibowo, Rahmat Nurcahyo, Universitas Indonesia, Depok, West Java, Indonesia

ID 361 Correlating Brain Dominance and Hand Preference to Academic Tracks: A Case for Senior High School Students (SHS) in the Philippines

Ma. Monica L. Joven, Josephine D. German, Ma. Lourdes O. Buan, Alyana Bianca G. Carreon, and Marjorie Joyce D. Ochoa, Mapua University, Manila, Philippines

ID 362 eReserba Cardinal: An Integrated Room Reservation System for Higher Education Institutions

Paz Clariz A. Barzaga, Josephine D. German, Guiller O. Binoya, Samantha Dominique C. Bucao, Samantha Cyrine R. Ibe, and Dave Cullen G. Yap, Mapua University, Manila, Philippines

ID 363 Assessment and Improvement of Facebook Business Platforms for SMEs in the Philippines

Jenalyn Shigella G. Yandug, Diana Marie B. De Francia, Joymicah O. Paulo, Mapua University, Manila, Philippines

ID 366 E-Kanban Hybrid Model for Malaysian Automotive Component Suppliers with IoT Solution

Mohd Razif Idris, P. Shiva Prakash, Universiti Kuala Lumpur Malaysia Italy Design Institute, Cheras, Kuala Lumpur, Malaysia
A. Abdullah Faculty of Accountancy Universiti Teknologi MARA, Shah Alam, Malaysia

ID 369 Portfolio Selection Utilizing Safety-First Optimization Model on Exchange Traded Funds in Asia

Michael Young, Mapua University, Manila, Metro Manila, Philippines

TJ Troy N. ChuaHay and John Francis T. Diaz, College of Business, Chung Yuan Christian University, Taoyuan, Taiwan

ID 370 Factors of the entrepreneurship environment in the context of innovation development of SMEs in the Latvian market

Inese Ratanova, Inesa Voroncuka, University of Latvia, Riga, Latvia

ID 371 Water Resources Dynamics: Chabahr Free-zone Case Study

Abolfazl Taghavi, Amir Hossein Sadeghi, Hossein Zare and Sharif Khaleghparast, Sharif University of Technology, Tehran, Iran

ID 372 A mathematical model for cost optimization of Information Facilitated Product Recovery Systems (IFPRS)

Ashish Dwivedi, Jitender Madaan, IIT Delhi, New Delhi, India

ID 373 Combing Text Mining and Survival Analysis for Asset Health Management Using Maintenance Log

Akhilesh Kumar, Yarra Sai Deepak, IIT Kharagpur, Kharagpur, West Bengal, India
Bharat Bhushan, Mohit Kale, Tata Metaliks Limited, Kharagpur, India

ID 374 Utilization of Color Similarity Index for Evaluating Existing Military Camouflage Designs

Yogi Tri Prasetyo, Mapua University, Manila, Metro Manila, Philippines

ID 375 Improving Fast-food Restaurant's Method of Operation: Automated Drive through Ordering System

Allysa Mae M. Castillo, Louie John L. Salonga, John Allen L. Sia, and Michael N. Young, Mapua University, Manila, Metro Manila, Philippines

ID 376 20 years of scientific evolution of cybersecurity: a science mapping

Leonardo Bertolin Furstenau, Michele Kremer Sott, and Andrio Jonas Ouriques Homrich, and Liane Mahlmann Kipper, Universidade de Santa Cruz do Sul – UNISC, Santa Cruz do Sul, Rio Grande do Sul, Brazil
Abdul Aziz Al Abri, Professor of Advanced Cyber Security Academy, Advanced Cyber security Academy, Muscat – OMAN
Theodoro Flores Cardoso, Pontifical Catholic University of Rio Grande do Sul (PUCRS) Porto Alegre – BRAZIL
José Ricardo López-Robles, Management Engineering PhD, University of the Basque Country, Bilbao – SPAIN
Manuel J. Cobo, Professor at the Dept. of Computer Science and Engineering, University of Cadiz, Cadiz – SPAIN

ID 377 The Use of Industry 4.0 Concepts in the Retailing Process of the Automotive Industry

Nesreen M. Abdelghafar, Mahmoud A. El-Sharief, Mechanical Engineering Department, Assiut University, Egypt.

ID 378 An Empirical Analysis of Financial Ratio Trends of Several Companies Listed in the Philippine Stock Exchange

Manuel Jose V. Mercado, Meagan Allyson Pearl S. Garcia, Joshua B. Ilagan, Renald Redner D. Reveche, and Michael N. Young, Mapua University, Manila, Metro Manila, Philippines

ID 379 A Comparative Assessment of Human Factors and Ergonomics Courses for Industrial Engineering in the Philippines

Yogi Tri Prasetyo, Mapua University, Manila, Metro Manila, Philippines

ID 380 Occupational Fatality, Injury, Illness, and Work-related Abuses of Indonesian Immigrant Workers in Taiwan 2013–2014

Yogi Tri Prasetyo, Mapua University, Manila, Metro Manila, Philippines

ID 381 Defects Management practice during DLP in the UAE Construction Industry

Muhammad Tariq Shafiq, Ghaleb Al Seena, Mohammed Al Saqqa, Sultan Al Mansouri, UAE University Al Ain, Abu Dhabi, United Arab Emirates

ID 384 Wave Energy Converters: Barriers and Drivers

Misaa Alkhayyat, Tayeb Brahimi, Effat University, Jeddah, Saudi Arabia
Sabique Langodan, Ibrahim Hoteit, Physical Sciences and Engineering King Abdullah University of Science and Technology, Thuwal, Saudi Arabia

ID 385 The Effect of Family Ownership on Risk-taking: Socioemotional Wealth Perspective

Takahiro Nishi, Meiji University, Tokyo, Japan
Takaaki Kawanaka, Graduate School of Engineering, The University of Tokyo, Japan

ID 386 Development of A Low-Cost Solar Water Purifier Using Metaheuristic Process

Sourav Kumar Ghosh, Md. Mamunur Rashid, Department of Industrial and Production Engineering Bangladesh University of Textiles, Dhaka, Bangladesh,
Naurin Zoha, Fariha Kabir Torsha Department of Production and Industrial Engineering, Bangladesh University of Engineering and Technology, Dhaka, Dhaka Bangladesh,
Israt Zarin Era, Department of Industrial and Management Systems Engineering, West Virginia University, United States

ID 387 Development and Optimization of A Single Stage Multimodal Fixed-Cost Transportation Problem

Sourav Kumar Ghosh, Md. Mamunur Rashid, Bangladesh University of Textiles, Dhaka, Bangladesh
Naurin Zoha, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

ID 389 Overview of Grid-Tied PV Technology: A Review

Lakna Ganegodage, Waidyasekara K.G.A.S., University of Moratuwa, Moratuwa, Western Province, Sri Lanka

ID 390 Development of Portable Electromagnetic Radiation Protective E-Textile

Md Mamunur Rashid, Sadman Sakib Tushan, Sourav Kumar Ghosh, Bangladesh University of Textiles, Tejgaon, Dhaka, Bangladesh

ID 392 Benchmarking the Performance of Southeast Asian Football Teams Using the CCR Data Envelopment Analysis (CCR-DEA) Model

Rene D. Estember, Shean Michael L. Reyes, and Omar A. Solaiman, Mapua University, Manila, Philippines

ID 394 An Artificial Intelligence Approach towards Sales Forecasting: Case study of knit garments Industry

Md Mamunur Rashid, Md Rubel Khan, Sourav Kumar Ghosh, Bangladesh University of Textiles, Tejgaon, Dhaka, Bangladesh

ID 395 A Unified Uncertainty Mathematical Model for Input Oriented Data Envelopment Analysis

Assem A. Tharwat, Professor, College of Business Administration, American University in the Emirates, UAE.

Basma E. El-Demerdash, Assistant Lecturer, Department of Operations Research and Management, Faculty of Graduate Studies for Statistical Research, Cairo University, Giza, Egypt

Ihab A. El-Khodary, Professor, Department of Operations Research and Decision Support, Faculty of Computers, and Artificial Intelligence, Cairo University, Egypt.

ID 396 Vehicles' Emissions Consideration in Transportation Network Design Using Markov Chain Traffic Assignment

Sinan Salman, Suzan Alaswad, Zayed University, Abu Dhabi, UAE

ID 398 Resource-Constrained Multi-Project Scheduling Using Priority Rules: Application in the Deep-Water Construction Industry

Hassan Elfiky, Aly Owida, Noha M. Galal, Arab academy for science, technology, and maritime transport, Alexandria, Egypt

ID 410 Towards A Sustainable Use of Biocides in Saudi Arabia: Opportunities, Perspectives and Risks

Talal Mouais, Budoor Alwateedhi, Tayeb Brahimi, Imtiaz Ahmad, Effat University, Jeddah, Makkah, Saudi Arabia

ID 412 Heterogeneous Green Vehicle Routing Problem with Hierarchical Objectives: Case Study

Hagar Amer, Hala A. Farouk, Khaled S. El-Kilany, Arab Academy for Science and Technology and Maritime Transport, Alexandria, Egypt

ID 413 Ranking of Water Desalination Technologies Based on the Preference Selection Index

Mohammed Obeidat, Haneen Traini, Jordan University of Science and Technology, Irbid, Jordan

ID 414 Examining Availability of a Packaging Unit: A Pharmaceutical Case

Md. Galib An-Noor Amio, Shibshankar Dey, Faisal Mahmud, Bangladesh University of Engineering and Technology Dhaka, Dhaka, Bangladesh

ID 423 Determining Factors of Auditor Switches among Manufacturing Companies Listed on the Indonesia Stock Exchange

Miftahul Rohmah, Rony Wardhana, Rudi Harianto, Ibnu Fajarudin, Frenky Yusuf, Nurul Aini, Joko SuyonoNarotama University, Surabaya, East Java, Indonesia Abdul Talib Bin Bon, Fakultas Pengurusan Teknologi dan Perniagaan, Universiti Tun Hussein On Malaysia

ID 431 A Service Quality Study on the In-Demand Motorcycle Hailing Applications

Mary Christy O. Mendoza, Adrian Kendrick S. Casas, Rhona H. Reyes, School of Industrial Engineering and Engineering Management, Mapua University, Intramuros, Manila

ID 433 Ergonomic Intervention for Radiology Department of Public Hospitals in Metro Manila

Rianiña D. Borres, John Paulo S. Lagonoy, Mapua University, Manila, Philippines

ID 434 Optimization of a Dissolved Air Flotation System using Factorial Experimental Design in a Water Treatment Plant at Laguna De Bay

Aaron S. Cornista, Rianina D. Borres, Mapua University, Manila, Philippines

ID 435 A Study of Decision and Information Synergy (DIS) Focused Inter-modal Freight Transportation (IFT) in the Indian Context

Vipulesh Shardeo, Ashish Dwivedi and Jitender Madaan, Indian Institute of Technology Delhi, Hauz Khas, Delhi, India

ID 437 Design and Implementation of a Nurse Robot

Amal Abutaleb, Jory Alsabhani, Sadeem Alkinani, ShahadAlkaydi, Sara Alghamdi, Ahmed Bensenouci, Electrical, and Computer Engineering Department, Effat University, Jeddah, Makkah, Saudi Arabia.

ID 438 An Experimental Study on the Performance of a Newly Developed Pico Hydroelectric Device

Loreen Alyana S. Macasu, Marco E. Malabrigo, Esmond Adriel M. Ramos, Rianiña D. Borres, School of Industrial and Engineering Management, Mapua University Manila, Manila, Philippines.

ID 439 Unravelling the Stereotypes of Women in Industrial Engineering

Glyda Aricon B. Marquez, Sheila May P. Gappi and Elaiza E. Bautista, Jaypy T. Tenerife and Maria Teresa B. Mendoza, Industrial Engineering Department, Technological Institute of the Philippines Manila, Manila NCR Philippines

ID 440 Renewable Waste Water and Filtration System with Phytoremediation Used in Aquaculture of Freshwater Ornamental Fish

Glyda Aricon Marquez, Charlotte Palao, Kenneth Ibasco, Lady Claudette Ferrer, Patricia Sagge, Maria Teresa B. Mendoza, Technological Institute of the Philippines Manila, Philippines

ID 452 Material Requirement Planning and Inventory Control Application Program of Crispy Retail at PT. Diva Mitra Bogatama with Application Program Based on c# Programming Language

Lina Gozali, Florencia Irena, Lilyana Jap, Fransiska Lefta, Andri Tan Wijaya, Frans Yusuf Daywin, Industrial Engineering Department Engineering Faculty, Universitas Tarumangara Tarumanagara University Jakarta Dki Jakarta Indonesia, Siti Rohana, Nasution Universitas Pembangunan Nasional "Veteran" Depok, Jawa Barat

ID 456 Identification of Stakeholders in the Project Life Cycle of a Capital Project for a State-Owned Enterprise in South Africa

Penny Maphanga and Hannelie Nel, University of Johannesburg, Johannesburg, Gauteng, South Africa

ID 458 A Marketing Approach to Improving Service Income: A Case of a Budget Hotel

Mary Christy O. Mendoza and Renz Carlo A. Reynon, Mapua University, Manila, Philippines

ID 464 A Multi-Objective Linear Optimization Model for Designing Sustainable Closed-Loop Agricultural Supply Chain

Hossein Reyhani, Younis Jabarzadeh, and Nader Ghaffarinasab, University of Tabriz, Tabriz, East Azarbaijan, Iran
Vikas Kumar, Bristol Business School, University of the West of England Bristol, Bristol, UK
Jose Arturo Garza-Reyes, Derby Management School, University of Derby, Derby, England

ID 466 Proposal of a Preliminary Audit Approach for the Modeling and Digitization of a Green Supply Distribution Chain

Cheimaa ABOUESSOUROUR, Khalid BENHIDA, LAPSSII, ESTS, University Cadi Ayyad, Marrakech, Morocco

ID 470 Entrepreneurial Model Based On Business Sector Case Study At Sidoarjo, Indonesia

Agus Sukoco, Iswachyu Dhaniarti and Wahyu Mulyo Utomo, Narotama University, Surabaya, Indonesia
Hening Widi Oetomo, Akhmad Riduwan, Asmara Indahingwati and Suhermin, Sekolah Tinggi Ilmu Ekonomi Indonesia(STIESIA) Surabaya, Indonesia

ID 477 Voting Behavior on PILKADA Kabupaten Sula 2015

Agusmawanda, Political Science Department Muhammadiyah University North Maluku, Indonesia

ID 478 Potential and Barrier Analysis, Implementation of Education Based on Local Wisdom in SDN Burengan 2 Kediri, Indonesia

Alfi Laila, and Karimatus Saidah, Universitas Nusantara PGRI Kediri, Indonesia
C. Asri Budiningsih, and Kastam Syamsi, Universitas Negeri Yogyakarta, Indonesia

ID 480 The Role of the Company's Size to Profitability and Corporate Value Quality

Anasthasia Triwulan Budisaptorini, Grahita Chandrarin, STIEKN Jaya Negara Malang, Indonesia
Prihat Asih, Universitas Merdeka Malang, Indonesia

ID 482 Strategy Model to Build Employee Discipline

Arasy Alimudin, Agus Sukoco, Angga Adi Prebawa, Iswachyu Dhaniarti, Narotama University, Surabaya, Indonesia
Hartono, PGRI Adi Buana University, Surabaya, Indonesia

ID 483 Comparative Study of Bio-Asphalt, Coconut Shell Distillation Tar, and Plastic Road in terms of Construction, Economical, and Regulatory Aspects

Arthur Daniel Limantara, Department of Informatics Engineering, STT Cahaya Surya, East Java, Indonesia
Edy Gardjito, Bambang Subiyanto, Fauzie Nursandah, Adisty Riska Hardianti, and Hery Lilik Sudarmanto, Department of Law, Kadiri University, East Java, Indonesia

ID 485 Model of Customer Knowledge Level of Moslem Women and Its Impact on Hijab Purchase Decisions in Surabaya Indonesia

Iswachyu Dhaniarti, Student of PhD Program, Universitas Airlangga, Surabaya, Indonesia and Narotama University, Surabaya, Indonesia
Arasy Alimudin, Narotama University, Surabaya, Indonesia

ID 486 The Effect Of Personal Development And Networking On Entrepreneurship Interest With Supervising Lecturers'as The Intervening Variable

Asmirin Noor, Etin Puspita Sari, Fajar T Novitasari, Fanny Dwi Puspitasari and Pieere Patariato, School of Economic Mahardhika Surabaya East Java Indonesia

ID 487 Evaluation Policy on Quality Assurance Systems at Faculty of Teacher Training and Education Mulawarman University Samarinda

Azainil and Usfandi Haryaka, Management Education, Faculty of Teacher Training and Education, Mulawarman University, East Kalimantan, Indonesia
Ramadiani, Computer Science, Faculty of Computer Science and Information Technology, Mulawarman University, East Kalimantan, Indonesia

ID 488 A Strategic Framework for Smart Campus

Karam AbuAlnaaj, Vian Ahmed and Sara Saboor, American University of Sharjah, Sharjah, United Arab Emirates

ID 489 Simulation-Driven Appointment System Model for a License Processing Office in the Philippines

Jenilyn Shigella G. Yandug, and Christine Anne S. Santos, School of Industrial Engineering and Engineering Management, Mapua University, Manila, Philippines

ID 491 Tropically Adapted Passive Building: The Impact of Building Design and Double Glazing on Ambient Temperature and Windows' Inner Surface Temperature

Karl Wagner, Universiti Kuala Lumpur, Jln Sultan Ismail 1016, 50250 Kuala Lumpur, Malaysia
Siti Fatimah Salleh, and Ayodele Bamidele Victor, Institute of Energy Policy and Research (IEPR), Universiti Tenaga Nasional, Jln Ikram-UNITEN, 43000 Kajang, Selangor, Malaysia

ID 494 Multi-Objective Framework of Circular Economy

Noushin Bagheri, NEOMA Business School, Rouen, France, and University of Reims Champagne-Ardenne, Reims, France
Fouad Ben Abdelaziz, NEOMA Business School, Rouen, France

ID 496 Analysis and Improvement of Facility Layout in a Furniture Factory: A Case Application

Mehmet Savsar, Kuwait University, Industrial Engineering Department, Kuwait, and Üsküdar University, Industrial Engineering Department, Istanbul, Turkey
Aminah Aldehaim, Industrial & Management Systems Engineering Department, Kuwait University, Kuwait

ID 500 Technology Mapping: Definitions, Types, and Applications

Alya Abuseem, Yumna Alzaabi, Abeer Alhammadi, Fikri T. Dweiri, and Alaa M. Ubaid, University of Sharjah, Sharjah, United Arab Emirates

ID 501 Design and Interface Development of Business to Consumer (B2C) E-Commerce Websites in the Philippines

Rianina D. Borres, Mary Christy O. Mendoza, Shiela Marie A. Samaniego, Eunise Ina, and M. Panganiban, Mapua University, Manila, Philippines

ID 515 Work Shift Generation In The Operation Of A Bus Rapid Transit System

Daniel Esteban Cortés, and David Álvarez-Martínez, Department of Industrial Engineering, Faculty of Engineering, Universidad de Los Andes, Bogotá, Colombia
Rubén Iván Bolaños, and César Augusto Marín-Moreno, Research, Development & Innovation Department, Integra S.A., Pereira, Colombia

Luis Miguel Escobar, Universidad Libre Seccional Pereira, Pereira, Risaralda, Colombia

Kenny Cárdenas-Parra, Industrial Engineering Department, Universidad Tecnológica de Pereira, Pereira, Colombia

ID 519 Optimization of Flat Rolling Process Through Simulation Approach Using Simufact Forming

Shafaa Al-Maqdi, Jaber Abu Qudeiri and Aiman Ziout, Department of Mechanical Engineering, UAE University, Al Ain, UAE

ID 520 Green Business Approach Based Food Delivery Solution For Home Kitchens In Jaffna Region

Hirishegan Karuneswaran, and Gayashini Ratnayake, Informatics Institute of Technology, Sri Lanka

ID 521 The Effect of Organizational Culture to Employee Performance Through the Work Environment in Harbormastership and Authority of Port Class III Tarakan

Ana Sri Ekaningsih, Karolus Sonu, Theodorus kristianto, Marisi Manalu, Sekolah Tinggi Ilmu Ekonomi Bulungan Tarakan

ID 522 The Effect of Website Quality Using Webqual 4.0 Method on Student's Decision in Registering at University of Kanjuruhan Malang

Christea Frisdiantara, Kawakibul Qamar, Yusriel Ardian, Eko Fachtur Rahman, University of Kanjuruhan, Malang, Indonesia

ID 524 Safety System for Bicycle Rider

Azzah Alshmarani, Huda Shamsaldeen, and Ahmed Bensenouci, Electrical and Computer Engineering Department (ECE), Effat University, Jeddah, KSA

ID 526 Simulation Analysis of Patients Flow in Oncology Clinics

Sara A. Hamad and Khaled S. El-Kilany, Industrial and Management Engineering Department, Arab Academy for Science, Technology and Maritime Transport, Alexandria, Egypt

ID 530 An optimal preventive maintenance policy for a solar photovoltaic system in order to promote sustainability and profitability

Safouane Elkouiri and Lahcen Mifdal, Lidra, International University of Agadir, Agadir, Morocco

Sofiene Dellagi, Lgipm, University of Lorraine, Metz, France

Anis Chelbi, University of Tunis, National School of Engineering of Tunis, CEREP, Tunis, Tunisia

ID 532 A mathematical model for strategic and tactical planning of the oil & gas upstream supply chain after a merger

Abdalla Rashid Masoud Alnaqbi, Industrial Engineering and Engineering management department, University of Sharjah, UAE, Systems Engineering Department, École de Technologie supérieure, Montreal, Canada

Fikre Dweiri, Industrial Engineering and Engineering management department, University of Sharjah, UAE

Amin Chaabane, Systems Engineering Department, École de technologie supérieure, Montreal, Canada

ID 534 Study of Text Neck Syndrome Among Smartphone Users Via JACK Software

Amira Khalaf, Bahie Elsamad, Dana Mohammad, Fajer Al-sanad, Khadeja Abdalaziz, Lawrence Al-fandi, Department of Industrial Engineering, American University of the Middle East, Eqaila, Kuwait

ID 536 A fully automatic system for assessing day similarity

Youness CHAWKI, Moulay Ismail University, Faculty of Sciences and Technologies, Boutalamine, Errachidia, Morocco

Khalid EL ASNAOUI, Complex Systems Engineering and Human Systems, Mohammed VI Polytechnic University, Hay Moulay Rachid, Ben Guerir, Morocco

Mohammed OUHDA, Moulay Ismail University, Faculty of Sciences and Technologies, Boutalamine, Errachidia, Morocco

ID 538 Crop Planning Problem using Rectangular Management Zones and Different Irrigation Systems

Omar Salama, Hala A. Farouk, Noha M. Galal, Industrial and Management Engineering Department, Arab Academy for Science, Technology, and Maritime Transport (AASTMT), Alexandria, Egypt

ID 545 Exploring the applications of lean manufacturing practices in textile industry

Muhammad Ali Khan and Hussain Bux Marri, Industrial Engineering & Management, Mehran UET, Jamshoro, Sindh, Pakistan. Awaiz Khatri, Textile Engineering, Mehran UET, Jamshoro, Sindh, Pakistan.

ID 546 Construction Site Layout Planning Kuwait International Airport Expansion- Terminal 2

Dr. Rifat Ozdemir, Marah AlRahhal, Jumannah AlQallaf, Rawan AlAbdullah, Haya AlAradah, Sarah AlMatar, Industrial Engineering Department, American University of the Middle East, Eqaila, Kuwait

ID 558 The Role of Women in the Vegetable Market Traders Alok against Decision-Making Families with Income as a Moderating Variable

Sarlina Noni, Agribusiness Study Program, Faculty Of Agriculture, University Of Nusa Nipa
Maumere

ID 559 The Management Of Professional Zakat In Overcoming The Poverty In Tegalsari District Regency Of Banyuwangi East Java Indonesia

Abdul Kholiq Syafa'at and Lely Ana Ferawati Ekaningsih, Nurul Inayah, Nur Anim Jauhariyah, IAI Darussalam Blokagung
Banyuwangi, East Java, Indonesia
Amang Fathurrohman, Universitas Yudharta Pasuruan, Indonesia

ID 560 Audit Conformity for Higher Education Using Good University Governance (Gug) Principle

Djoko C.U. Lieharyani, Department of Computer Engineering and Informatic, Politeknik Negeri Bandung, Indonesia
Pande Gede Angga Priardhi Putra and Raden V.H. Ginardi, Department of Technology Management, Institut Teknologi Sepuluh
Nopember, Indonesia
Rita Ambarwati Sukmono, Post Graduate, Universitas Muhammadiyah Sidoarjo, Indonesia

ID 561 Generation of Knowledge Base for Conversation Agent of Nusantara Culinary Tour from Free Text Using Information Retrieval

Dwi Cahyono, Veronika Nugraheni Sri Lestari, Dr. Soetomo University, Surabaya, Indonesia

ID 564 Modular construction innovation in the UK: the case of residential building

Bert Ediale Young and Rafiu Dimeji Seidu, London South Bank University, UK
Menaha Thayaparan, University of Moratuwa, Kadubedda, Moratuwa, Sri Lanka
Joseph Appiah-Kubi, DMC Contracts Ltd., UK

ID 565 Engineering Education towards Industry 4.0

Banu Y. Ekren, Department of Industrial Engineering, Yasar University, Izmir, Turkey
Vikas Kumar, Bristol Business School, University of the West of England, Bristol, Somerset, United Kingdom

ID 568 Achieving Sustainability through Holistic Maintenance- Key for Competitiveness

Ashutosh Samadhiya, and Rajat Agrawal, Indian Institute of Technology Roorkee, India

ID 570 Barriers and Enablers for Developing Sustainable Supply Chain at Traditional Shipyards in Indonesia

Yugowati Praharsi, Mohammad Abu Jami'in, and Gaguk Suhardjito, Politeknik Perkapalan Negeri Surabaya, Surabaya, Jawa Timur, Indonesia
Hui-Ming Wee, Chung Yuan Christian University, Chung Pei, Taiwan

ID 572 Solar Powered Fish Feeding Machine, Technology For Sme In Sidoarjo, East Java, Indonesia

Agus Sukoco, Ronny Durrotun Nasihien and Muhammad Ikhsan Setiawan, Department of Civil Engineering, Narotama University, Indonesia
Abdul Talib Bin Bon UTHM Parit Raja Johor, Malaysia

ID 573 Portable Air Inflated Freezer Solar cell, Technology For Fisheries SME Sidoarjo Indonesia

Ronny Durrotun Nasihien and Muhammad Ikhsan Setiawan, Agus Sukoco, Department of Management, Narotama University, Indonesia
Abdul Talib Bin Bon, UTHM Parit Raja Johor, Malaysia

ID 575 A model for on-premises systems and cloud ERP integration

Ms. Amizhthini Nakkeeran, Ms. Mahikala Niranga, Dr. Ruwan Wickramarachchi, Department of Industrial Management, University of Kelaniya, Sri Lanka

ID 576 Good Practices for the Green Supply Chain Modelling

Sana Elhidaoui, and K. Benhida, S.Elfezazi, A.Elbouri, Sciences d'ingénieur, Est of Safi, UCA, Morocco

ID 578 Design and Development of Migration Path for Supply Chain Integration for Manufacturing Industries

Prashant Shahabadkar, and Ashok Vangeri, Department of Mechanical Engineering, Shetty Institute of Technology, Kalaburagi, Karnataka, India
Pramod Shahabadkar and K N Nandurkar, K K Wagh Institute of Engineering Education and Research, Nashik, India

ID 579 Optimization of Supply Chain System in Multi-Product, Multi-Supplier Scenario Using Teaching-Learning-Based Optimization Algorithm

Padmakar Pawar, K. N. Nandurkar, and P. K. Shahabaddkar, K.K.W.I.E.E.R Nashik Select Region India

ID 596 Road Projects Estimation: A Review

Opeoluwa Akinradewo, Clinton Aigbavboa, Ayodeji Oke, Department of Construction Management & Quantity Surveying, University of Johannesburg, Johannesburg, Gauteng, South Africa

ID 599 Bio char Production from Sugar Cane Bagasse and its Application Sugarcane Processing Wastewater Treatment

Mercy Manyuchi, C. Mbohwa, and E. Muzenda, University of Johannesburg, Johannesburg, South Africa

ID 603 Artificial Neural Networks for Fault Diagnosis of Milk Pasteurization Process – A Comparative Study

Chebira Samia, Bourmada Noureddine, and Boughaba Abdelali, Industrial Safety Department, Hygiene and Industrial Safety Institute, Mustafa Ben Boulaid BATNA 2, University, Batna, Algeria

ID 604 Lean approach in a High Mix, Low Volume Manufacturing Environment – Case study

Anees Hussain, Jose Eduardo Munive-Hernandez, and Felician Campean, University of Bradford Bradford, West Yorkshire, United Kingdom

ID 605 Lean Readiness Level of the Azerbaijan Construction Industry

Hajibaba Aghayev, Warwick Manufacturing Group, The University of Warwick, UK

Jose Arturo Garza-Reyes, Simon Peter Nadeem, and Anil Kumar, University of Derby, Derby, Derbyshire, United Kingdom

Vikas Kumar, Bristol Business School, University of the West of England, UK

Luis Rocha-Lona, and ESCA Santo Tomás, Instituto Politécnico Nacional, Mexico City, Mexico

Fernando González-Aleu, Departamento de Ingeniería, Universidad de Monterrey, San Pedro Garza García, N.L. México

ID 606 Value Addition of Woody Biomass (Saw Dust) to Bio Ethanol

Mercy Manyuchi, C. Mbohwa, and E. Muzenda, University of Johannesburg, Johannesburg, South Africa

ID 608 An Effectiveness Model of Service Policy of Building Permit (IMB) Based on A Green Spatial Environment in Palembang City

Andries Lionardo, Rudy Kurniawan, Faculty of Social and Political Studies, University of Sriwijaya, Palembang, Indonesia

M Chairul Basrun Umanailo, University of Iqra Buru, Namlea, Maluku, Indonesia

ID 609 Valorisation of Coffee Waste to Biogas

Mercy Manyuchi, C. Mbohwa, and E. Muzenda, University of Johannesburg, Johannesburg, South Africa

ID 612 Environmental Remediation through the Application of the Vermicomposting Technology for Biowaste Management

Mercy Manyuchi, C. Mbohwa, and E. Muzenda, University of Johannesburg, Johannesburg, South Africa

ID 617 Comparative Analysis of Cost Overrun on Road Construction Projects Executed by Indigenous and Expatriate Contractors

Opeoluwa Akinradewo, Douglas Aghimien, and Clinton Aigbavboa, Department of Construction Management & Quantity Surveying, University of Johannesburg, Johannesburg, Gauteng, South Africa

ID 618 Design of Job Scheduling Using BAT Algorithm To Minimize Makespan in Hybrid Flowshop

Sumiharni Batubara, Debbie Kemala Sari, and Dhimas Aryo Wicaksono, Industrial Engineering Department, Faculty of Industrial Technology, Trisakti University, Kampus, A USAKTI, Jakarta Barat 11440, INDONESIA

ID 619 Heating and Cooling Loading Processes and Optimizes Material Properties for the Best Thermal Performances using CES

Ahmad Yame, Lawrence Technological University, Dearborn, MI, United States

ID 626 “Asmeany”: An Android Application For Deaf And Hearing-Impaired People

Samar zaid alahmadi, Reem Alsulami, King Abdulaziz University, Jeddah, Makkah, Saudi Arabia

ID 627 Evaluation of Pre Versus Post Merger of Banks

Prabhavathi Kalshetty, Ballari Institute of Technology, Affiliated to VTU, Bellary, Karnataka, India
Prof. Shekar Babu PhD, Founding Head, AMRITA Vishwa Vidyapeetham, Bengaluru, India
Gurram Prasad Dinesh PhD, Chairman, Department of Management, Vijayanagara Sri Krishnadevaraya University, Karnataka, India

ID 628 Harnessing Fourth Industrial Revolution (4IR) for Improving Poor Universities Infrastructure in Developing Countries–A Review

Thalente Nkosi, Ademilade Aboginije, Nokulunga Mashwama, and Wellington Thwala, University of Johannesburg, Johannesburg, South Africa

ID 629 Stocking decisions in multiple locations periodic review inventory system with order crossover

Yahel Giat, Jerusalem College of Technology, Jerusalem, Israel

ID 630 Comparison of Social Good versus NPA of Indian Banks

Prabhavathi Kalshetty, Research Scholar, Department of Management, Ballari Institute of Technology and Management, Visveswaraya Technological University, Karnataka, India
Rajshree Sundararajan, Department of Management, Amrita Vishwa Vidyapeetham, Bangalore, India
Prof. Shekar Babu Ph.D., Founding Head, AMRITA Vishwa Vidyapeetham, Bengaluru, India
Gurram Prasad Dinesh, Chairman, Department of Management, Vijayanagara Sri Krishnadevaraya University, Karnataka, India

ID 631 Critical analysis of software vulnerabilities through data analytics

Mastan Rao Parimi, Amrita Vishwa Vidyapeetham, Bengaluru, Karnataka, India
Prof. Shekar Babu Ph.D., Founding Head, AMRITA Vishwa Vidyapeetham, Bengaluru, India

ID 632 Detecting Anomalies in Users – An UEBA Approach

Raguvir S, Amrita Vishwa Vidyapeetham, Bangalore, Karnataka, India
Prof. Shekar Babu Ph.D., Founding Head, AMRITA Vishwa Vidyapeetham, Bengaluru, India

ID 633 Leadership in the Mining Sector: A Functional Approach for Optimum Team Performance in the Fourth Industrial Revolution

Mercy Manyuchi, C. Mbohwa, and E. Muzenda, University of Johannesburg, Johannesburg, South Africa

ID 635 Data Mining for Mobile Internet Traffic Flow Forecasting

Saber Elmabrouk, Libyan Academy, Janzou, Libya
Alhasan Nureddin Salem, Libyana Mobile Phone, Tripoli, Libya

ID 636 Change in Community Work Patterns

Sanggar Kanto, Darsono Wisadirana, Anif Fatma Chawa, and M. Chairul Basrun Umanailo, Faculty of Social and Political Sciences, Brawijaya University, East Java, Indonesia

ID 638 CSR Communication Strategy of Indian Organizations

Arun K, Amrita Vishwa Vidyapeetham, Amritapuri, Kollam, Kerala, India
Prof. Shekar Babu PhD, Founding Head, AMRITA Vishwa Vidyapeetham, Bengaluru, India

ID 639 Are corporates renouncing Shareholder Capitalism and moving towards Stakeholder Capitalism?

Arun K, Amrita Vishwa Vidyapeetham, Amritapuri, Kollam, Kerala, India
Prof. Shekar Babu PhD, Founding Head, AMRITA Vishwa Vidyapeetham, Bengaluru, India

ID 640 The Importance of the Mine Manager and the Appraisal System in the Mining Sector

Mercy Manyuchi, C. Mbohwa, and E. Muzenda, University of Johannesburg, Johannesburg, South Africa

ID 641 Measuring Supply Chain Complexity based on Multi-criteria Decision Approach

Sujan Piya, Mohammad Khadem, and Mahmoud Al Kindi, Department of Mechanical and Industrial Engineering, Sultan Qaboos University Muscat Seeb Oman,
Ahm Shamsuzzoha, School of Technology and Innovations, University of Vaasa, Vaasa, Finland

ID 642 Development of Themes and Sub-Themes Using Text-Extraction

Poorvajaa M. S., Naveen Kumar N. S., Madhulika Varanasi, Amrita Vishwa Vidyapeetham, Bangalore, Karnataka, India

M. Mahathi Bhargavi, M.L.R. Institute of Technology, Hyderabad, Telangana, India
Rohan Boorugu, Lovely Professional University, Phagwara, Punjab, India
Prof. Shekar Babu Ph.D., Founding Head, AMRITA Vishwa Vidyapeetham, Bengaluru, India

ID 643 Evaluation for Tools and Techniques for Text-Extraction

Naveen Kumar N S, Poorvajaa M. S., and Madhulika Varanasi, Amrita Vishwa Vidyapeetham, Bangalore, Karnataka, India
Prof. Shekar Babu PhD, Founding Head, AMRITA Vishwa Vidyapeetham, Bengaluru, India
M. Mahathi Bhargavi, M.L.R. Institute of Technology, Telangana, India
Rohan Boorugu, Lovely Professional University, Punjab, India

ID 644 Need Identification for CSR Activities through Gramasabhas – A Kerala Model

Arun K, Amrita Vishwa Vidyapeetham, Amritapuri, Kollam, Kerala, India

ID 653 Operational Efficiency of Perishable Product Supply Chain Using Petri Net Technique

Manisha Bhardwaj, and Rajat Agrawal, Indian Institute of Technology Roorkee, Roorkee, Uttarakhand, India

ID 656 Multi-Criteria Decision Making Methods and their Applications– a Literature Review

Fatma Eltarabishi, Omar Hassan Omar, Imad Alsyouf, and Maamar Bettayeb, University of Sharjah, Sharjah, United Arab Emirates

ID 657 Upliftment Through Efficient Marketing Strategies, Rural Entrepreneurship and Tourism in North-Eastern States of India

Bhairab Chandra Patra and Usha Lenka, Department of Management Studies, IIT Roorkee, Roorkee, Uttarakhand, India

ID 658 Sustainable development practices in the South African Construction Industry: A review of Related Literature

Malingaka Maoeng, E.I EDOUN, Charles Mbohwa, University of Johannesburg, Pretoria, GAUTENG, South Africa

ID 659 Improving the system failure of Learner Management Information System: The case of service SETA

Nompumelelo Makhanya, E. Innocents EDOUN, University of Johannesburg, Pretoria, South Africa

ID 660 Improving end-customers' satisfaction through postponement in the South Africa automobile supply network

Polycarpe Feussi, E. Innocents Edoun, and Charles Mbohwa, Faculty of Engineering and the Built Environment, University of Johannesburg, GAUTENG, South Africa

ID 661 Factor Analysis Approach of Job Demands and Resources Model

Abdirahman Shire, and Abdul Talib Bon, University Tun Hussein Onn Malaysia, Batu Pahat, Johor, Malaysia

ID 668 Green Human Resource Management Bundle Practices and Sustainable Manufacturing Performance: Understanding Potential Relationships

Ahmed Zaid, Palestine Technical University (PTUK), Tulkarm, Palestine
Abdul Talib Bon, Production and Operations Management Department, Universiti Tun Hussein Onn, Parit Raja, Johor, Malaysia
Ayham A.M. Jaaron, Leicester Castle Business School, De Montfort University, Leicester, United Kingdom

ID 669 Determining the Impact of Construction and Demolition Waste Reduction practices on Green Building Projects in Gauteng Province, South Africa

Ademilade Aboginije, Clinton Aigbavboa, Wellington Thwala, and Segun Samuel, University of Johannesburg, Johannesburg, South Africa

ID 671 The Use of Word Card Media to Improve Early Reading Skill at Preschool

Farida Samad and Vrieda Makingkung, University Kampus I Akehuda, Jl. Bandara Babullah Akehuda, Ternate, Maluku Utara, Indonesia

ID 672 FMEA AIAG-VDA – Commentary and Case Study

Edly Ramly, EFR Certification, Kulai, Johor, Malaysia
Hood Atan, IATF Auditor, Exergy Management Consultant Malaysia

ID 673 Improving Parcel Sorting System by Utilizing OCR, ASR, and Robot Arm

Abdulrahman Ayash Alharbi, Hassan Ahmad Hassan, Mohammed Majed Alnazawi, Othman Sameer Sonbol, Taibah University Al-Madinah Al-Monawrah, Saudi Arabia

ID 674 Are Indonesian Muslim Students More Engaged to Religious Organization than Public Organization?

Hafid Algristian, Psychiatrist, Faculty of Medicine, Universitas Nahdlatul Ulama Surabaya, Indonesia
Azimatul Karimah, Consultation–Liaison Psychiatrist, Faculty of Medicine, Universitas Airlangga Surabaya, Indonesia
Zulidyana Dwi Rusnalasari, Postgraduate Program, Universitas Negeri Surabaya, Indonesia
Andini D. Arumsari, Faculty of Education Sciences, Universitas Narotama, Surabaya, Indonesia

ID 675 Industrial Ecosystem Modeling of Wooden Fishing Boat Building in East Java, Indonesia

Yugowati Praharsi, Mohammad Abu Jami'in, and Gaguk Suhardjito, Politeknik Perkapalan Negeri Surabaya, Indonesia
Hui–Ming Wee, Chung Yuan Christian University, Chung Pei, Chung Li City, Taiwan

ID 677 Development of Artificial Intelligent (AI) for Agriculture, Business, E–commerce, Robotics and Education in Indonesia by UMG IdeaLab

Harry Kasuma (Kiwii) Aliwarga, UMG IdeaLab, Jakarta, Indonesia
Lina Gozali, Tarumanagara University, Indonesia
Siti Rohana Nasution, Industrial Engineering Department, Universitas Pembangunan Nasional Veteran, Jakarta, Indonesia

ID 678 Service Model Augmentations for Improving Company Management Systems of Corregidor Inn™

Maria Rebeka Isabel M. Carcellar, Jenalyn Shigella Yandug, John Brixter J. Aliado, Marjorie Joyce D. Ochoa, and Marquin Jose R. Pacana, Mapua University, Philippines

ID 679 Study of smart factory in Indian companies: Technologies and challenges

Sidharth M, Amrita School of Business, India
Prof. Shekar Babu PhD, Founding Head, AMRITA Vishwa Vidyapeetham, Bengaluru, India

ID 680 Modeling and Simulation of Transmission Dynamics of Chronic Liver Cirrhosis

Mst. Shanta Khatun, and Md. Haider Ali Biswas, Khulna University, Bangladesh

ID 681 Do the Written Examination based Training Courses Affect on Freight Drivers' Skills? An Empirical Study in Iran based on the Kirk–Patrick Model

Abbas Mahmoudabadi, MehrAstan University, Iran
Peyman Moghadam, Senior Expert in Freight Transportation, Road Maintenance and Transport Organization (RMTO), Tehran, Iran

ID 684 A Review On Food Delivery Solutions For Small Medium Restaurants in Jaffna Region

Hirishegan Karuneswaran, and Gayashini Ratnayake, Informatics Institute of Technology, Sri Lanka

ID 685 Modeling the Effects of Transmission Dynamics of Malaria: A Mathematical Approach on Healthcare

Anarul Islam, Md. Borhan Uddin Imran, and Md. Haider Ali Biswas, Khulna University, Bangladesh

ID 687 Identification of SDGs through CSR of Indian Companies

Kirubaananth P, Amrita School of Business, Bengaluru, India
Prof. Shekar Babu PhD, Founding Head, AMRITA Vishwa Vidyapeetham, Bengaluru, India

ID 688 Social Media Analytics and CSR of Indian Companies

Deeptanshu Veerwani, Amrita School of Business, India
Prof. Shekar Babu Ph.D., Founding Head, AMRITA Vishwa Vidyapeetham, Bengaluru, India

ID 691 Application of Taguchi Design in Quality Improvement for Construction Industry Oral Construction Management

Ziout, A., Jaber Abu Qudeiri, Mohammed AlAjouz, Osama Bassam, and Hana Abusabiekeh, Department of Mechanical Engineering, United Arab Emirates University, AlAin, Abu Dhabi, UAE

ID 692 Evaluating the 3D Printing Capabilities

Aya Mansour, Haleimah Alabdouli, Hend Alqaydi, Huda Al Khawaja, and Waleed Ahmed, Mechanical Engineering Department, United Arab Emirates University, UAE
Hamad Al Jassmi, Civil and Envirmentebtal Engineering Department, College Of Engineering, UAE University, United Arab Emirates

ID 693 Managing Project Delays: Simulation–Based Methodology for Project Scheduling

Reem Shams AlDeen, Ruqayah AlSaad, Maha Alrasheedi, Omniah Ahmad, Anfal Malak, and Hadi Jaber, American University of

the Middle East, Kuwait

ID 694 Demand-Driven Approach to Combat Nervousness of Auto Supply Chain in India

Aman Sinha, Research Scholar, Department of Commerce and Management, Savitribai Phule Pune University, Pune, India
Satish S Ubale, Director, Matrix School of Management, Savitribai Phule Pune University, Pune, India

ID 695 Lean Thinking and Workplace Safety: insights from two improvement projects

Marcos Dieste, Alessandro Baseggio, Roberto Panizzolo, and Stefano Biazzo, University of Padova, Italy

ID 696 Combating the Impact of Advanced Persistent Threats in Industrial Internet of Things (IIoT)

Wazir Khan, Jazan University, Saudi Arabia

ID 697 Event of Crime against Property: Robbery & Theft Prediction using Probabilistic Graphical Model

Rex Aurelius Robielos and Nico Duran, Mapua University, Manila, Philippines

ID 698 Experimental Investigation and Thermal Analysis of Heat Affected Zone of Stainless Steel (SS-304) Using RFW Process

Vaibhav V.Kulkarni, Assistant Professor (Workshop), MITWPU, Kothrud, Pune, India
Prafulla C.Kulkarni, Principal, R. H. Sapat COE, M S Research, College Road, Nashik, India

ID 699 Productivity in public sector services: results of a systematic literature review

Khalifa Al-Suwaidi and Imad Al-Syouf, Industrial Engineering and Engineering Management Department, University of Sharjah, Sharjah, United Arab Emirates

ID 700 A REINFORCEMENT LEARNING APPROACH TO SEQUENTIAL ACCEPTANCE SAMPLING AS A CRITICAL SUCCESS FACTOR FOR LEAN SIX SIGMA

Hani Abdulwahab Khalil and Wilkistar A Otieno, Industrial and Manufacturing Engineering Department, University of Wisconsin- Milwaukee, WI, USA

ID 702 Improving Auditing System in Pre-Primary and Primary Education: An Information System Integration Approach

Jenilyn Shigella Yandug, Niño Chino B. Ledres, SeonJae Lim, Valerie D. Cruz and Dave Cullen G. Yap, School of Industrial Engineering and Engineering Management, Mapúa University, Manila, Philippines

ID 704 Effect of Leadership Style on Policy Timeliness and Performance of Smart City in Dubai: A Conceptual Discussion

Fanar Shwedeh, PhD Researcher, School of Technology Management & Logistics, University Utara Malaysia, Kedah, Malaysia
Norsiah Binti Hami, School of Technology Management & Logistics, University Utara Malaysia, Kedah, Malaysia
Siti Zakiah binti Abu, Bakar School of Technology Management & Logistics, University Utara Malaysia, Kedah, Malaysia

ID 711 Increasing Coverage Day Aviation Fuel Through Development of Modular Aviation Fuel Terminal System in Aviation Fuel Terminal Tual (Maluku - Papua Area)

Maulana Ardiansyah, Widi satria Nugraha, and Novriantari, Reliability & Project Development VIII, Pertamina (Persero), Papua Indonesia

ID 713 Open Innovation Mediates the Relationship between Entrepreneurial Orientation and Firm Performance: A Preliminary Survey

Fazal Akbar and Abdul Talib Bin Bon, Faculty of Technology Management and Business, University Tun Hussein Onn Malaysia, 86400, Johor, Malaysia
Fazli Wadood, Faculty of Management Science, University of Buner Sowari, Khyber Pakhtunkhwa Pakistan

ID 714 The Industrial Revolution 4.0 and Entrepreneurial Orientation with Innovation as mediation Effect on the Performance of Malaysian Furniture Industry. A Proposed Framework

Fazal Akbar and Abdul Talib Bin, Faculty of Technology Management and Business, University Tun Hussein Onn Malaysia, 86400, Johor, Malaysia
Fazli Wadood, Faculty of Management Science, University of Buner Sowari, Khyber Pakhtunkhwa, Pakistan

ID 715 Top Management Support Moderate the Relationship Between Internal Environment and Malaysian Universities Performance

Saleh Nasser Abdullah Al-Subari, Rumaizah Binti Ruslan, Shafie Bin Mohamed Zabri, Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia, Johor, Malaysia

ID 716 Determine the Enterprise Risk Management Factors Affecting the Performance of Malaysian Technical University Network (MTUN)

Saleh Nasser Abdullah Al-Subari, Rumaizah Binti Ruslan, Shafie Bin Mohamed Zabri, Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia, Johor, Malaysia

ID 717 The Effect Of Auditor's Professionalism And Professional Ethics On Materiality Level Considerations In Audit Processes To The Financial Statements Of Entities Indonesian Case Studies

Ari Budiyanto, Rony Wardhana, Bayu Nurcahyo Andini, Anik Mubiatiningrum, and Ibnu Fajarudin, Faculty Economy and Business, Narotama University, Surabaya, Indonesia

Nur Lailiyatul Inayah, Faculty Economy and Business, Bhayangkara University, Surabaya, Indonesia

Abdul Talib Bin Bon, Fakulti Pengurusan Teknologi dan Perniagaan, Universiti Tun Hussein Onn Malaysia (UTHM), Johor, Malaysia

ID 718 Reduction of Undelivered Items in the Service of Centron Energy Savings Technology Corporation

Ellaine C. Villegas, Kyra Patricia V. Tadina, Jenalyn Shigella Yandug, Nelrose D. Vidamo and Joanna Lou C. Mata, School of Industrial Engineering and Engineering Management, Mapua University, Manila, Philippines

ID 722 The role of process management in the context of Industry 4.0

Michal Svehla, Tomas Rericha, Jiri Tupa, Frantisek Steiner, Department of Technologies and Measurement, University of West Bohemia in Pilsen, Univerzitni 8, Czech Republic

ID 723 Improving patient discharge process

Maha Al Dhaheri, Mariam Ramadan, Afra Al Mheiri, Maryam Al Shehhi, Khalifa University, United Arab Emirates

ID 725 Life Cycle Assessment on a 500 MW Oil-Fired Power Plant in Sudan

Omer Ahmed Eltayeb, Md. Mizanur Rahman, Aminuddin Saat, and Hasan Mohd Faizal, School of Mechanical Engineering, Universiti Teknologi Malaysia, Johor, Malaysia

ID 726 Institutional Factors in Public Sector Reform: A Theoretical Analysis

Malse Yulivestra, Doctoral Program of Administrative Science, Faculty of Administrative Science, Universitas Brawijaya Malang, Indonesia

Soesilo Zauhar, Andy Fefta Wijaya, and Firda Hidayati, Public Administration Department, Faculty of Administrative Science, Universitas Brawijaya Malang, Indonesia

ID 727 "Kalesang Village" Energy in The Context of Social

M Chairul Basrun Umanailo, Department of Agricultural and Forestry, University of Iqra Buru, Namlea, 97571, Indonesia

ID 728 Cia-Cia Vocational Inventoryization In Buru District

Saidna Zulfiqar bin Tahir, Risman Iye, A Yusdianti Tenriawali, Azwan, and Karim, Department of Indonesian Literature Faculty, University of Iqra Buru, Namlea, Indonesia

M Chairul Basrun Umanailo, Department of Agricultural and Forestry, University of Iqra Buru, Namlea, 97571, Indonesia

ID 729 Initiating Digitalization as Institutional Changes in Institutional Government Bureaucracy

Harsya Harun, Doctoral Program of Administrative Science Faculty of Administrative Science, Universitas Brawijaya, Malang, Indonesia

Bambang Supriyono, Bambang Santoso Haryono, and Endah Setyowati, Public Administration Departement, Faculty of Administrative Science, Universitas Brawijaya, Malang, Indonesia

M Chairul Basrun Umanailo, Department of Agricultural and Forestry, University of Iqra Buru, Namlea, 97571, Indonesia

ID 731 Development of Science and Technology Towards the Formation of Participatory Spaces

M Chairul Basrun Umanailo, Department of Agricultural and Forestry, University of Iqra Buru, Namlea, 97571, Indonesia

ID 750 Case study - Using multicriteria analysis methods in project selection

Houda Tahri and Omar Drissi Kaitouni, Imosys, Engineering, management and optimization of systems, Mohammadia School of Engineers, Agdal Rabat, Morocco

ID 752 Shipment Retrieval Improvement in an Air Cargo

Abyar Mohammad, Badria Al-Ajmi, Laila Al-Mousa, Mariam Al-Haddad, Sarah Al-Jassim and Mustafa Sendil, Industrial Engineering Department, College of Engineering and Technology, American University of the Middle East, Kuwait

ID 753 Sustainable Approach for the Production of Biodiesel from Waste Cooking Oil Using Static Mixer Technology

Chandra Mouli R. Madhuranthakam, Azizeh Mohammad Nour Kamyabi, and Gharisa Mohamed Almheiri, Chemical Engineering Department, Abu Dhabi University, Abu Dhabi, United Arab Emirates
Ali Elkamel, Chemical Engineering Department, University of Waterloo, Waterloo, Ontario, Canada and Chemical Engineering Department, Khalifa University of Science and Technology, Abu Dhabi, United Arab Emirates

ID 756 Design of an Oilfield Produced Wastewater Treatment Plant – UAE Perspective

Chandra Mouli R. Madhuranthakam, Archana Thomas, and Zainab Akhter, Chemical Engineering Department, Abu Dhabi University, Abu Dhabi, United Arab Emirates
Ali Elkamel, Chemical Engineering Department, University of Waterloo, Waterloo, Ontario, Canada and Chemical Engineering Department, Khalifa University of Science and Technology, Abu Dhabi, United Arab Emirates

ID 757 Dynamical Transmission of HIV/AIDS and TB Co-infection Model

Sk. Abdus Samad and Md. Haider Ali Biswas, Mathematics Discipline, Science Engineering, and Technology School, Khulna University, Khulna, Bangladesh

ID 758 Scheduling design for Job Shop Production Using Firefly Algorithm to Minimize Mean Tardiness

Debbie Kemala Sari, Sumiharni Batubara, and Raden Roro Sindyastuti S, Industrial Engineering Department, Faculty of Industrial Technology, Trisakti University Kampus A USAKTI, Jakarta Barat, INDONESIA

ID 759 Surrogate-Based Process Optimization: A Case Study on Simple Natural Gas Processing Plant

Falah Alhameli, Mohammed Alkatheri, Ali Elkamel, Peter Douglas, Department of Chemical Engineering, Khalifa University of Science and Technology, Abu Dhabi, United Arab Emirates
Ali Almansoori Department of Chemical Engineering University of Waterloo Waterloo, Ontario, Canada

ID 760 Dust Particles Detection on Camera Lens

Dhinakaran Koilpitchai and Manoj Ravindra Phirke P, Imaging Tech Lab HCL Technologies, Bangalore, India

ID 798 A Simulation Study on Bed Capacity Management in a Public Hospital

Doha Makarem, Farah Sarraj, Fatemah AlKandarie, Shouq Thuwaini, Yara Tafesh, and Ufuk Kula, Industrial Engineering Department, American University of the Middle East, 250 St, Eqaila, Kuwait

ID 799 Six Sigma Project to Improve a PVC Pipe Production

Anwar Al Merri, Dalal Al Attar, Kawthar Al Saegh, Loulwah Al Doukhi, Muneera Al Sabah, and Ufuk Kula, Industrial Engineering Department, American University of the Middle East, 250 St, Eqaila, Kuwait

ID 806 Increasing Oil/Petroleum Supply Chain Distribution Efficiency through using Autonomous Vehicle

Rizky Yonathan, Sabrina Putri Kinanti, and Zahra, University of Indonesia

ID 808 Project prioritization for portfolio selection using MCDA

Ghizlane Elbok and Abdelaziz Berrado, Research team AMIPS, Ecole Mohammadia d'Ingénieurs, Mohammed V University in Rabat, Morocco

ID 810 Critical analysis of software vulnerabilities through data analytics

Mastan Rao Parimi, Research Associate, Amrita Vishwa Vidyapeetham, Bengaluru, India
Prof. Shekar Babu PhD, Founding Head, AMRITA Vishwa Vidyapeetham, Bengaluru, India

ID 811 University Exam Timetabling

Aseel Sami Al-Zadjali, Razan Hamed Al-Fazari and Zahra Hamed Al-Ishaqi, Mechanical and Industrial Engineering Department, Sultan Qaboos University, Muscat, Oman

ID 812 Humanitarian Aid for Wuhan with Crisis Logistics Management Approach

Yonglin Ren, Shiva Haji Ebrahimi, Mehdi Azad, and Anjali Awasthi, Concordia Institute for Information Systems Engineering (CIISE), Concordia University Montreal, Quebec, Canada
Souraj Salah, Hamdan Bin Muhammad Smart University Abu Dhabi, UAE

ID 813 The Impact of Grouping Efficiency Measures in Cellular Manufacturing Systems

Nadia Dahmani, Zayed University, Abu Dhabi, United Arab Emirates, LARODEC Laboratory, Institut Supérieur de Gestion, 2000

Le Bardo, Tunisia

Adnan Mukattash, Department of Industrial Engineering, Faculty of Engineering, Hashemite University, Zarka Jordan

ID 815 System Dynamics Simulation based on SCOR Performance at Table Tennis Table Manufacturer in Indonesia

Iqbal Wahyu Saputra, Yuniaristanto, Muhammad Hisjam, and Roni Zakaria, Department of Industrial Engineering, Universitas Sebelas Maret, Indonesia

ID 816 Production Capacity Improvement with Theory Of Constraint at Heavy Equipment Component Industry

Iveline Anne Marie, Debbie Kemala Sari, Pudji Astuti and Cecep Setiawan, Industrial Engineering Department, Faculty of Industrial Technology, Trisakti University Kampus A USAKTI, INDONESIA

ID 818 Analysing and Prioritizing the Antecedents of Shopping Centre Grading Using Analytical Hierarchy Process (AHP) Modelling

Ihfasuziella Ibrahim, Abdul Talib Bon, Abdul Hadi Nawawi and Edie Ezwan Mohd Safian
Faculty of Architecture, Planning and Surveying, UiTM, 40450 Shah Alam, Malaysia
Faculty of Technology Management & Business, UTHM, 86400 Johor, Malaysia

ID 831 Feasibility analysis considering business friendly policies and factors: An Effective Approach

Dr. ALI ALARJANI, Head of Mechanical and Industrial Engineering Department, College of Engineering at Prince Sattam Bin Abdelaziz University(PSAU), Alkharj – Kingdom of Saudi Arabia

ID 832 Using DMAIC methodology for the Conversion of Ready-Mix Concrete Plant Energy to Solar PV

Dr. Slim Saidi and Zulfa A. Rasheed, Rochester Institute of Technology, Dubai, United Arab Emirates

ID 834 Conducting a Feasibility Analysis and Developing an Effective Entrepreneurial Business Plan

Miss. Iman Youssef, California Intercontinental University
Dr. Daw Alwerfalli, College of Engineering, Lawrence Technological University, Southfield, Michigan 48705, USA

ID 836 Land Use Pattern as an Indicator of Sustainability: A Case Study

Geena Prasad, Rajesh R., and Arun K., Amrita School of Engineering, Amrita Vishwa Vidyapeetham, Amritapuri, India.

ID 837 Batching and Resource Allocation Under Stochastic Unreliable Flexible Flow Shop

Hudaifah Abdullah Syawal, Umar M. Al-Turki, System Engineering Department, King Fahd University of Petroleum & Minerals, Saudi Arabia

ID 839 Electron beam melting of γ -TiAl and minimization of its surface roughness and cutting forces in turning

Saqib Anwar , Industrial Engineering Department, College of Engineering, King Saud University, Riyadh, Saudi Arabia

ID 849 An Assessment of Hazards and Risks in the Sewing Section of the Readymade Garment Industry in Bangladesh

Subrata Talapatra, Nouring Mohsin, Department of Industrial Engineering and Management, Khulna University of Engineering & Technology, Khulna, Bangladesh.

ID 854 Evaluating “Usability” and “Anthropometric Dimensions” of ATMs in Kuwait for Ergonomic Design

Suat Kasap, Anaam B. AlAbhouf, Farah M. AlRasheedi, Hessah H. AlSumairi, Manal A. AlMutairi, and Rawan N. AlMutairi, Industrial Engineering Department, College of Engineering and Technology, American University of the Middle East, Kuwait

ID 856 The Study of Business Model for Soygurt Product on Small-Scale Rural Agro-Industry Development Using BCG and SWOT Analysis

Atris Suyantohadi, Agroindustrial Department, Agricultural Technology Faculty, Universitas Gadjah Mada, Yogyakarta, Indonesia
Muhammad Hisjam, Iqbal Wahyu Saputra, Department of Industrial Engineering, Faculty of Engineering, Universitas Sebelas Maret, Surakarta, Indonesia

ID 864 Assessment of Wind Farm Allocation Criteria

Mawadda M. Samkari and Abdulaziz T. Almaktoom, Department of Operations and Information Management, Effat University, Jeddah, Kingdom of Saudi Arabia

ID 865 Open Source 3D Printer: A Case Study

Aya Mansour, Haleimah Alabdouli, Hend Alqaydi, and Huda Al Khawaja, Mechanical Engineering Department, College Of

Engineering United Arab Emirates University, Al Ain, UAE

Waleed Ahmed, Mechanical Engineering Department, College of Engineering United Arab Emirates University, Al Ain, UAE

Hamad Al Jassmi, Civil Engineering Department, College of Engineering United Arab Emirates University, Al Ain, UAE

ID 867 Reflection the Concept of Power Foucault's

Sumitro Sumitro, Imam Yuliadi, Edy Kurniawansyah, Najamudin Najamudin, Department of Social Sciences, Institute of Social and Cultural Sciences Samawa Rea, Moyo Hulu, Indonesia

M Chairul Basrun Umanailo, Department of Agricultural and Forestry, University of Iqra Buru, Namlea, Indonesia

ID 868 Qualitative Study Factors Triggering Gay Characteristics in Gay Groups in Palmerah District West Jakarta

Siti Novy Romlah, Rita Dwi Pratiwi, Stikes Widya Dharma Husada, Tangerang, Indonesia, Stikes Kharisma Persada Fenita Purnama Sari Indah, Stikes Kharisma Persada, Indonesia

M Chairul Basrun Umanailo, Department of Agricultural and Forestry, University of Iqra Buru, Namlea, Indonesia

ID 869 Ergonomics Evaluation of Pharmaceutical Services Facilities (Case Study of Pharmacies in Ambon City)

Rapih Sarfa Marasabessy, Universitas Darussalam, Maluku, Indonesia

Risman Tunny, STIKes Maluku Husada, Maluku, Indonesia

M Chairul Basrun Umanailo, Department of Agricultural and Forestry, University of Iqra Buru, Namlea, Indonesia

ID 870 Factors That Influence the Success of Rural Women Empowerment in Salahutu District

Suud Marasabessy, Reza Abdulmudy, Universitas Darussalam, Maluku, Indonesia

M Chairul Basrun Umanailo, Department of Agricultural and Forestry, University of Iqra Buru, Namlea, Indonesia

ID 871 Investigation of Factors That Affect the Quality of Village Financial Statements in Buru District

Kamala Soleman, Yudhy Muhtar Latuconsina, Yunita Marasabessy, Universitas Darussalam

M Chairul Basrun Umanailo, Department of Agricultural and Forestry, University of Iqra Buru, Namlea, Indonesia

ID 872 Sustainable Traditional Cultural for Tourism Fisherier with Canvas Business Model on the Ambon Island

Achmad Jais Ely, Politeknik Kelautan dan Perikanan Maluku, Maluku, Indonesia

Agung K Henaulu, Universitas Darussalam, Maluku, Indonesia

M Chairul Basrun Umanailo, Department of Agricultural and Forestry, University of Iqra Buru, Namlea, Indonesia

ID 873 Transfer of Function Agricultural Land

Sholih Mu'adi, Ali Maksum, Muhammad Lukman Hakim, Faculty of Social and Political Sciences, Brawijaya University, East Java, Indonesia

M Chairul Basrun Umanailo, Department of Agricultural and Forestry, University of Iqra Buru, Namlea, Indonesia

ID 875 Banking Servqual Analysis of Customer Satisfaction (Case Study at Ambon Branch BRI Bank in Ambon City)

Haris Salampessy, Ahmad Tuhelelu, Indra Wahyudi, Universitas Darussalam, Maluku, Indonesia

M Chairul Basrun Umanailo, Department of Agricultural and Forestry, University of Iqra Buru, Namlea, Indonesia

ID 876 Analysis of Horizontal Sumbu Wind Tines Using Three Blades and Diameters of 12 Meter Kinds on Wind Speed in Barat–Maluku Seram Region

Kimin Kimin, Aliah Rahman, Awia Conang, Faculty of Engineering, Universitas Darussalam, Maluku–Indonesia

M Chairul Basrun Umanailo, Department of Agricultural and Forestry, University of Iqra Buru, Namlea, Indonesia

ID 879 An Analysis of Factors Affecting Young Consumers Intention with Online Shopping in Malaysia

Mehran Doulatabadi and Goh Rong Sheng, School of Economic and Management, Xiamen University Malaysia, 43900 Sepang, Selangor Darul Ehsan

ID 880 Six Sigma Implementation and Analysis – An Empirical Study of a Traditional Boat Building Industry in Indonesia

Yugowati Praharsi, Mohammad Abu Jami'in and Gaguk Suhardjito, Shipbuilding Institute of Polytechnic Surabaya (Politeknik Perkapalan Negeri Surabaya), Jl. Teknik Kimia Kampus ITS, Surabaya, Indonesia

Hui–Ming Wee, Chung Yuan Christian University, Taiwan

ID 881 Influence of Ethical Aspects on the Construction Industry Performance in Egypt

Mohamed Ahmed Azzab and Mohamed Wagih Badawi, Production Engineering Department, Faculty of Engineering, Alexandria University, Egypt

Strategy Model To Build Employee Discipline

Arasy Alimudin, Agus Sukoco and Angga Adi Prebawa

Narotama University, Surabaya, Indonesia

arasy.alimudin@narotama.ac.id , agus.sukoco@narotama.ac.id
angga.engineering@gmail.com

Iswachyu Dhaniarti

Student of PhD Program, Universitas Airlangga, Surabaya, Indonesia
Narotama University, Surabaya, Indonesia

Hartono

PGRI Adi Buana University, Surabaya, Indonesia

hartono@unipasby.ac.id

Abstract

Employee's discipline is an essential factor in achieving corporate objectives, however numerous managers are not able to adapt ideal leadership behaviour, reward and punishment to improve employee's discipline. Based on present study analysis, reward and punishment have a positive and significant impact towards the non-physical environment which could be seen from the positive result of coefficient value which is around 0.2165 with T-statistics more than 1.96 around 2.059. It can be concluded that punishment influences non-physical environment since it affects psychological condition of the employee. Besides, reward and punishment also play important role in improving employee discipline. Fair treatment of the manager in regard to reward and punishment depicts manager's ability to be objective in enforcing corporate regulations. The present condition creates a comfortable and stable environment for the employee in performing their duty. Non-physical working environment is based on four indicators which are: monitoring, working environment, reward and fair treatment. The indicators mentioned above influence positive and significant impacts toward work discipline. Corporate managers need to consider psychological characters of the employee in implementing reward and punishment scheme as the improvement to enhance discipline of the employee.

Keywords

Reward and punishment, non-physical work environment, employee discipline.

1 INTRODUCTION

Change is a significant process experienced by a corporate to survive in the competitive market environment. (Kanter & Mirvis, 1989) defines change as past analysis process which is shaped to be a stepping stone required for the future. In order to achieve this goal, the corporate leaders should sustain their existence in the business world by initiating changes that have a constructive impact on improving the quality and productivity of employees.

That every change that occurs within an organization is a dynamic movement projected to maintain its balance (Torang, 2013). Changes which take place in Human Resources Management environment are tendencies which cover workforce diversity, technology, globalization, and shifting in work and position (Dessler, 2011). Thus, to achieve success and sustainability of a business, leaders must preserve and advance the capabilities of human resources as a company asset, as well as maintain employees' discipline. Leaders should also embrace other vital functions of understanding the problems encountered by their subordinates as well as comprehending their feelings while facing that problem, colleagues, and work environment (Terry & Rue, 2010). Therefore, a leader must own a competence or knowledge (in terms of managerial and strategy), a positive behavior, capability to influence or direct others, accountable decision, good manner in ideas delivery, fine judgment in encouraging and motivating, and

ability to build personal approach (human relation) to their subordinates (Gibson, Ivancevich, & Donnelly, 1996). According to (Terry & Rue, 2010), the key of leadership lies on the degree of a group's trust toward its leader and the willingness to follow leader's instructions. A leader must be able to build mutual relationships with employees so that the corporate will run well and able to achieve its goals. The concept of exchange and reciprocity has been widely discussed in the organizational context, specifically in a relationship between employees and companies. In return for employee's service for the corporate, employers should take care of them (Cropanzano, Howes, Grandey, & Toth, 1997). In line with that opinion, (Chandrasekar, 2011) believes that the attitude of employees in work environment is influenced by interpersonal relations, feeling, supervisory and work environment. Similarly (Lohela-Karlsson, Hagberg, & Bergström, 2015) study finds that unfair leadership is one of a cause of the problem in a psychosocial working environment. In that sense, a leader must be able to build a corporate culture in planning a corporate management strategy. According to Chen (Chen, 2004), a corporate culture has a noteworthy effect on employees' responsibilities and commitments to their organizations. Leaders' direct attitudes and behaviors will affect employees' responsibilities and commitments and shape their interacting behavior which, eventually, creates a corporate culture.

Hence, the groundwork of human resource strategy must be relevant to the preparation of business strategy (Schuler & Jackson, 1997). Similarly (Dessler, 2011) affirms that strategic planning is the method employed by a corporate to compare its internal strengths and weaknesses toward opportunities and external threats in order to sustain its competitive strategy. The essence of strategic planning, such as corporate current business position, its location, and the strategy to manage competition, should be comprehended thoroughly. Leaders must specifically formulate strategies dealing with human resources and others to manage current corporate position through different approach. The strategic role of human resources as the outcome of the repositioning process is expected to contribute significantly in business strategy planning (Napier & Gershenfeld, 1993).

In Denpasar, Bali and its surrounding zones, the numbers of hotels, villas, resorts that have been growing every year have become favorite destination for domestic and foreign tourists. The hotels, as service provider, is a business that presents tourists a temporary accommodation with various services to support their tours. The services provided by employees are strongly influenced by employee's work satisfaction. Furthermore, work environment as place for employees to perform their routine duties is labeled as 'satisfying' if those responsibilities are carried out maximumly, safely, healthily and comfortably. According to (Supardi, 2003) work environment is physical and non-physical environment around the workplace that provide excitement, safety and comfortableness in performing the job. If the working environment is safe and comfortable, and communication among employees is fluent, it can be ascertained that the resulting performance will be effective. Work environment conditions and situations also impact employee's discipline. (Andriyani, 2010) in her study, finds that work environment contributes a significant and positive effect. Thus, it can be concluded that a good working environment will shape employees' discipline in a company. (Vaden, 2004) conducts a study in United States by taking samples from cross-company employees. His study displays that punishment stimulates catcall and unfair treatment from the manager. Therefore, a favorable working environment is a form of non-financial reward (Mbah, Mgbemena, & Ejike, 2015)

A good working environment that will foster employee discipline and employee's discipline is very important in achieving company goals. A high work discipline is expected to increase employees' performance which eventually affects corporate accomplishment. The absence of this element will hinder a corporate to achieve optimal results. Quality of employees' discipline reflects the level of one's responsibility to their duties. Based on the employee attendance data of Inna Sindhu Beach Hotels, Resort and Meeting 2015, employee absenteeism rate is 0.13% and working hour violation rate is 3.67%. According to (Kuna, 2001), employee absenteeism rate is in a good company level, ranges from 2 to 3%. The percentage result of employee absenteeism rate of Inna Sindhu Hotels, Resort and Meeting is fairly good, however there are indications that employees' discipline is lacking. It is proven by the sum of late attendance of the employees which amounted to approximately 40 employees per month. This shows the lack of employees' compliance to the management regulation and work punctuality. Based on the results of the previous study that points out a research gap and interviews with Manpower Manager of Inna Sindhu Beach Hotels, Resort and Meeting, reveals these following facts: 1) Lack of work discipline are seen from employees' compliance of office hours, based on data and information obtained, there are nearly 40 late employees per month, 2) Lack of sense of responsibility for their assigned duties, 3) Capability of leaders in providing guidance for employees who commit violations, 4) Less effective reward and punishment system to improve employee's discipline. Equally, (Wyk & Pelsler, 2014) in this study suggests that the influential factor on effective discipline is leadership.

2 METHOD

This study aims to explain the causal relationship among variables through hypothesis testing with partial least squares path modeling (PLS-SEM) analysis technique. PLS-SEM is often called variance or component-based structural equation modeling which aims to test the predictive relationship among constructs by looking at the relationship or influence among them. In this study, the population taken as sample is employees of Inna Sindhu Beach Hotels, Resort and Meeting.

The range of sample used for PLS-SEM model does not require large samples. the number of samples taken in this study is as many as 100 employees(Ghozali, Imam, 2015). Research time started in January 2017 until November 2017. The data is collected through questionnaires, and then it is processed with measurement scale and scoring. The measurement scale used in this research is Likert scale 1 - 4. The analysis tool employed to test the hypothesis of data is SmartPLS ver 3.0 statistical package. The stages of analysis using PLS-SEM, are at least going through five processes, namely conceptual model, determining algorithm analysis method, determining resampling method, drawing path diagram and model evaluation(Ghozali, Imam, 2015). Each stage will affect the next stage. Hypothesis testing is completed by calculating the coefficient value of the path or inner model which indicates the significance level of testing the hypothesis. The coefficient value of path or inner models which is indicated by T-statistic should be above 1.96 (Hair, Anderson, Tatham, & Black, 1995).

3 RESULT AND DISCUSSION

Based on the results of the validity test in table 1 all the indicators on the X1 variable (leadership style) and X2 variable (reward and punishment) have corrected total correlation value of greater than 0.30 where the value of coefficient achievement is considered to have a distinguishing power is quite satisfactory or is considered valid(Ghozali, Imam, 2015).

Similarly for the reliability test in table 2 shows all the indicators in the X1 (leadership style) and X2 (reward and punishment) variables are reliable because the resulting Cronbach's alpha value is more than 0.60(Ghozali, Imam, 2015).

Table 1: Validity test X Variable

Item	Corrected item total correlation
x1.1.1	0.385
x1.1.2	0.567
x1.1.3	0.488
x1.2.1	0.474
x1.2.2	0.593
x1.2.3	0.541
x1.3.1	0.337
x1.3.2	0.582
x1.3.3	0.579
x1.4.1	0.315
x1.4.2	0.468
x1.4.3	0.530
x2.1.1	0.402
x2.1.2	0.722
x2.1.3	0.479
x2.2.1	0.503
x2.2.2	0.547
x2.2.3	0.556
x2.3.1	0.469
x2.3.2	0.699
x2.3.3	0.502
x2.4.1	0.403

x2.4.2	0.561
x2.4.3	0.443
x2.5.1	0.469
x2.5.2	0.521
x2.5.3	0.489

Table 2: Reliability test X Variable

Item	Corrected item-total correlation
Directive	0.607
Supportive	0.680
Participatory	0.679
Achievement orientation	0.618
Salary / incentive	0.673
Career development	0.701
Psychological rewards	0.699
Punishment Prefentif	0.611
Punishment Represif	0.624

Based on the result of validity test in table 3 it can be explained that all the indicators on Y1 variable (non working physical environment) and Y2 variable (work discipline) is valid because all indicators can measure what to measure measuring non working physical environment because corrected item value its total correlation is greater than 0.30.

Table 3: Validity test Y Variable

Item	Corrected item-total correlation
y1.1.1	0.437
y1.1.2	0.784
y1.1.3	0.494
y1.2.1	0.585
y1.2.2	0.805
y1.2.3	0.577
y1.3.1	0.493
y1.3.2	0.627
y1.3.3	0.471
y1.4.1	0.458
y1.4.2	0.397
y1.4.3	0.533
y2.1.1	0.314
y2.1.2	0.556
y2.1.3	0.697

y2.2.1	0.333
y2.2.2	0.623
y2.2.3	0.624
y2.3.1	0.434
y2.3.2	0.672
y2.3.3	0.827

Table 4: Reliability test Y Variable

Item	Corrected item- total correlation
Supervision	0.702
Work atmosphere	0.797
Rewards	0.686
Fair treatment	0.647
Absence / attendance	0.675
Carry out duties and obligations	0.693
Work according to procedure	0.791

Based on the results of reliability test in table 4 it can be explained that all the indicators on the variable Y1 (non-physical work environment) and Variable Y2 (work discipline) is reliable because the value of cronbach's alpha generated more than 0.60.

Based on the path diagram in this study, the system of equations can be formulated as figure 1.

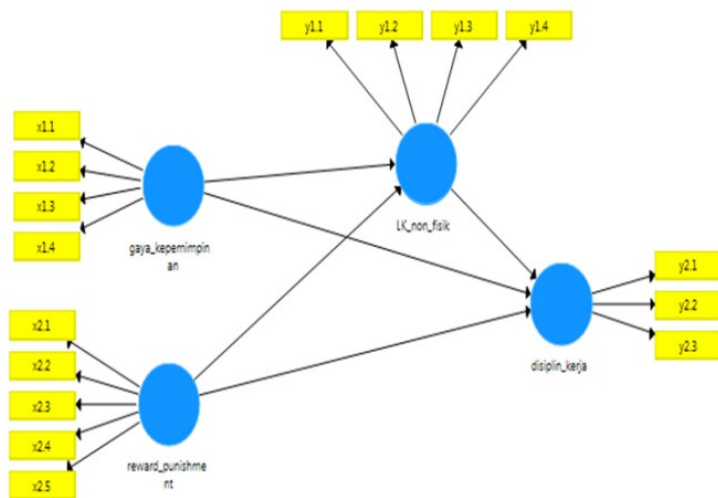


Figure 1: Path Diagram

For Based on path diagram in this study, the system's full equations model are as follows:

$$Y1 = 0,416 + 0,217 + \zeta_1$$

$$Y2 = 0,391 + 0,199 + 0,128 + \zeta_2$$

The obtained structural model shows that the relationship between Y1 (non-physical work environment) with X1 (leadership style) is 0.416. While the loading value between Y1 (non-physical work environment) with X2 (reward

and punishment) is 0.217; as for X1 (leadership style) with Y2 (employee discipline) is 0.199 and for X2 (reward and punishment) with Y2 (work discipline) is 0.128; and for Y1 (non-physical work environment) with Y2 (employee's discipline) is 0.391.

Table 5: R Square Value

Variables	R Square
Non-physical work environment	0.2937
Work discipline	0.3472
Average	0.3205

Table 5 shows that the influence of leadership style and reward and punishment on non-physical work environment is 29.37%, while the influence of leadership style, reward and punishment, and non physical work environment to work discipline is 34.72%. Based on the R-sq value in each variable, the obtained average value is 0.3205, in which the model in this study is categorized as moderate. The communality average is 0.6078 while the recommended one should be 0.50 and the average of R-sq is 0.3205, so GoF value which is produced is 0.441 and it is categorized as large.

After the bootstrapping process the path diagram is shown in figure 2.

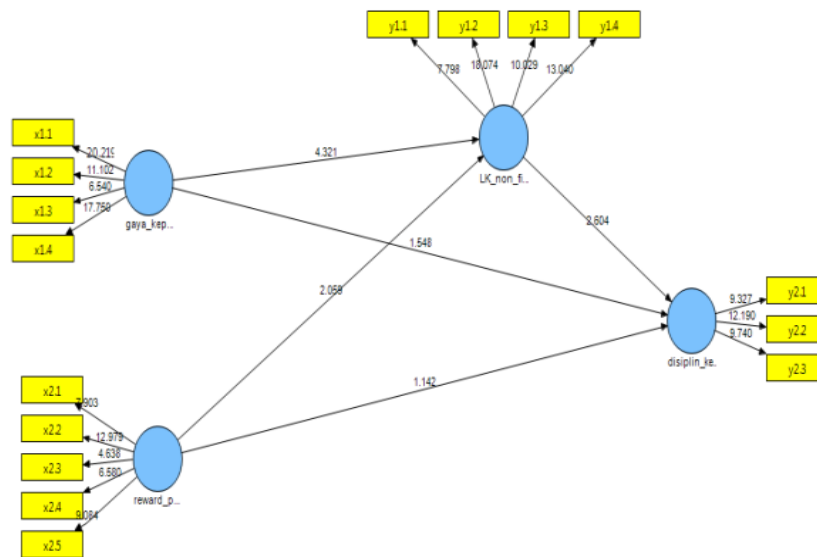


Figure 2: Path Diagram after Bootstrapping

Table 6: Significant influence test among variables

	Original Sample (O) and T Statistics (O/STERR)
Leadership style -> work discipline	0.1990 and 1.5477
Reward & punishment -> work discipline	0.1279 and 1.1416
Non-physical environment -> work discipline	0.3913 and 2.6044
Leadership style -> Non-physical environment	0.4160 and 4.3205

Reward & punishment -> Non-physical environment	0.2165 and 2.0594
---	-------------------

The Table 6 presents the influence of leadership style to shape work discipline has a positive result of coefficient value which is around 0.1990 with T-statistics less than 1.96 that is equal to 1.5477. It explains that leadership style has no significant effect on work discipline. Table 6 also displays the influence of reward and punishment on work discipline has a positive result of a coefficient value which is around 0.1279 with T-statistics less than 1,96 that is equal to 1,1416. It describes that reward and punishment have no significant effect on work discipline. After that the non-physical work environment has a positive and significant effect on work discipline as it is seen from a coefficient value which is 0.3913 with T-statistics more than 1.96 that is equal to 2.6044. Leadership style has a positive and significant effect on non-physical work environment as it is seen from a coefficient value which is 0.4160 with T-statistics more than 1.96 that is equal to 4.3205. Reward and punishment also have a positive and significant effect on non-physical work environment as it is seen from a coefficient value which is 0.2165 with T-statistics more than 1.96 that is equal to 2.0594. Although leadership style is admitted to be running well, the results of the analysis prove it contrary, in which leadership style has no significant effect on work discipline. Of the overall statement items of leadership style, it appears that the statement which says that leaders always supervising subordinates who have the lowest score of 2.74, and then the statement of leader expecting subordinates to comply with the corporate regulation receives a score of 2.98. These two facts, the lack of supervision from leaders and the leaders' expectations for subordinates to comply with the corporate regulation, are related to work discipline, which means the solid actions of leaders are expected so that subordinates will always follow all company's applicable regulations.

Judging from work discipline variables, specifically on duties and obligations accomplishment indicator, the statement item which states following the instruction /command of leader obtained the lowest score that is equal to 2.80. Non-physical work environment indicator with statement item that says work is supported by environment score the highest of 3,20. A good, positive, and warm working environment will indirectly affect the behaviour of an organization. Furthermore, in a good environment, employees also feel a satisfaction that potentially improves their positive contribution as expected by the company, mainly in obeying all applicable policies and regulations.

From the research, it is found that leadership style has a significant effect to work environment. The role of leader in the work environment is expected to be a role model for every subordinate. Leaders provide oversight of subordinates performance. The research indicates that the participative leadership style indicator has the highest score of other leadership style indicators that is 3.22. This leadership style involves subordinates in formulating a solution and policies in the company. From the analysis result, it can be seen that reward and punishment variable have a positive and significant effect to the non-physical working environment variable as it is seen from a coefficient value that is 0.2165 with T-statistics more than 1,96 that is equal to 2,0594. This is supported by research conducted by (Vaden, 2004) which affirms the result that the punishment stimulates catcall and unfair treatment from the manager. It can be concluded that punishment has an effect on non-physical environment because it affects employee's psychology. According to (Rivai, 2005) Reward and punishment is method that is both, liked and hated by employees. (Ching, 2012) His study argues that Reward and punishment has a positive discipline effect.

4 CONCLUSIONS

In order to improve the non-physical working environment and work discipline, the strategic model that are able to be applied are:

- The appliance of participative leadership style by involving employees in formulating company rules.
- The establishment of a good, positive, comfortable and safe working environment with rules enforcement through an effective reward and punishment system.
- The application of reward mechanism is based on employees favored preference they are 1. clear career development, 2 psychological rewards, such as praise, 3. The reward of salary / bonus / incentives should be at least equivalent to the received payment.
- Meanwhile, punishment method should be executed based on the employee detested penalty, such as 1. Repressive punishment stages e.g: reprimanding, warning and suspension. 2. Preventive punishment in the form of socialization of regulations, appeals and threats.
- Establishment of work environment through regularity of employees in carrying out duties and obligations in accordance with the applicable company regulations..

ACKNOWLEDGEMENTS

We would like to express our appreciation to the Manager and employees of Inna Sindhu Beach Hotel, Resort And Meeting who have provided information required in this research. Likewise, we also express our gratitude to Narotama University for providing support and insight that assist the completion of this research.

BIOGRAPHIES

ARASY ALIMUDIN

Rector, PhD and Lecturer of Narotama University, Surabaya, Indonesia

AGUS SUKOCO

Treasury, PhD and Lecturer of Narotama University, Surabaya, Indonesia

ANGGA ADI PREBAWA

Student of Narotama University, Surabaya, Indonesia

ISWACHYU DHANIARTI

Student of PhD Program, Universitas Airlangga, Surabaya, Indonesia
President, PhD and Lecturer of Narotama University, Surabaya, Indonesia

HARTONO

PhD and Lecturer of PGRI Adi Buana University, Surabaya, Indonesia

REFERENCES

- Andriyani, D., 2010. Pengaruh Lingkungan Kerja terhadap Disiplin Kerja Karyawan PT Hasco Multi Kimindo Sidoarjo. *Jurnal Aplikasi Manajemen*, Universitas Muhammadiyah Sidoarjo, 4(8), 971–983.
- Chandrasekar, K., 2011. Workplace environment and its impact on organisational performance in public sector organizations, *International Journal of Enterprise Computing and Business System*, 1(1), 1–20.
- Chen, L. Y., 2004. Examining the effect of Organizational Culture and Leadership Behaviors on Organizational Commitment, Job Satisfaction, and Job performance at Small and Middle-sized Firms of Taiwan, *The Journal of American Academy of Business*, 432–438.
- Ching, G. S., 2012. Looking into the issues of rewards and punishment in students, *International Journal of Research Studies in Psychology*, 1(2), 29–38. <https://doi.org/10.5861/ijrsp.2012.v1i2.44>
- Cropanzano, R., Howes, J. C., Grandey, A. A., & Toth, P. , 1997. The relationship of organizational politics and support to work behaviors , attitudes, and stress, *Journal of Organizational Behavior*, 18, 159–180.
- Dessler, G., 2011. *Human Resource Management*. New York: Pearson.
- Ghozali, Imam, and H. L., 2015. *Partial Least Squares, Konsep, Teknik Dan Aplikasi Menggunakan Program Smartpls 3.0 Untuk Penelitian Empiris*. Semarang: Badan Penerbit UNDIP.
- Gibson, J. L., Ivancevich, J. M., & Donnelly, J. H., 1996. *Organisasi: Perilaku, Struktur, Proses (8th ed.)*. Jakarta: Binarupa Aksara.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C., 1995. *Multivariate Data Analysis With Reading*. Upper Saddle River, NJ: Prentice-Hall, Inc.
- Kanter, D. L., & Mirvis, P. H., 1989. *The Cynical Americans: Living and Working in an Age of Discontent and Disillusion*. San Francisco: Jossey-Bass.
- Kuna, W., 2001. *Manajemen Sumber Daya Manusia Untuk Bisnis Kompetitif*. Yogyakarta: Gadjah Mada University Pers.
- Lohela-Karlsson, M., Hagberg, J., & Bergström, G., 2015. *Production loss among employees perceiving work environment problems*. *Int Arch Occup Environ Health*, 88(6), 769–777.
- Mbah, S. . I., Mgbemena, G. C., & Ejike, D. C., 2015. Effective Reward Management and Employee Performance in Civil Service (A Study of Anambra State Civil Service), *European Journal of Business and Management*, 7(27).
- Napier, R., & Gershenfeld, M. K. (1993). *Groups: theory and experience (5th ed.)*. Boston: Houghton Mifflin Co.
- Rivai, V., 2005. *Manajemen Sumber Daya Manusia Untuk Perusahaan*. Jakarta: Murai Kencana. PT. Rajagrafindo. Persada.
- Schuler, R. S., & Jackson, S. E. (1997). *Strategic Theory Research*. Oxlord Blacwell.
- Supardi, I., 2003. *Lingkungan hidup dan kelestariannya (2nd ed.)*. Bandung: Alumni.

Terry, G., & Rue, L. W., 2010. *Dasar-Dasar Manajemen*. Jakarta: PT Bumi Aksara.

Torang, S., 2013. *Organisasi dan Manajemen, Perilaku, Struktur, Budaya, & Perubahan Organisasi*. Alfabeta.

Vaden, C., 2004. *Punishment: Benefits, Risks, and Alternatives in a Business Setting*. Liberty University.

Wyk, C. Van, & Pelsler, A. M., 2014. Leadership's Role In Effective Implementation Of School Discipline Policies, *International Business & Economics Research Journal*, 13(4), 833–840.